The Alberta Journal of Educational Research

Vol. VI, No. 2 *June, 1960*

THE COMMITTEE ON EDUCATIONAL RESEARCH
Faculty of Education
University of Alberta

ACKNOWLEDGMENT

•

This publication was made possible by funds granted by Carnegie Corporation of New York. That Corporation is not, however, the author, owner, publisher, or proprietor of this publication, and is not to be understood as approving by virtue of its grant any of the statements made or views expressed therein.

THE COLOURED PROGRESSIVE MATRICES AS A MEASURE OF GENERAL INTELLECTUAL ABILITY FOR EDMONTON GRADE III BOYS*

R. S. MacArthur
University of Alberta

The Problem

It is well known that, particularly for older pupils, achievement tests are usually the best single predictors of academic success, assuming that the pupils will receive future treatments similar to those of their past (7) (10) (1). If however, and particularly for younger pupils, it is assumed that the future teaching treatments to be given a pupil can be adapted to suit the pupil's potential, then an accurate assessment of his intellectual potential, relatively independent of his past environment, is very useful.

As one of a series of studies concerned with the development and validation of measures of general intellectual ability having minimum educational and cultural loading, this investigation asked primarily: for the population sampled, what is the nature of abilities measured by Progressive Matrices (1947)? It also sought information concerning the factorial structure of certain other ability and achievement tests commonly used in the primary grades.

"Cold" and "Warm" Prediction

Over the years there has been considerable debate concerning the utility of a construct such as "general intellectual ability," which for purposes of this article will be considered as very similar to Spearman's g. Terman, in an address delivered toward the end of his life, stated "I am convinced that to achieve greatly in almost any field, the special talents have to be backed up by a lot of Spearman's g," and later in the same address, " . . . capacity to achieve far beyond the average can be detected early in life by a well-constructed ability test that is heavily weighted with the g factor." (21) Wechsler, in the preface to his latest book, says "I remain a reformed but unchastened Spearmanite." (25) Here, there are examples of giants in the mental testing field who currently support the utility of a construct similar to Spearman's g.

On the other hand, the Differential Aptitude Tests, which make no direct use of the idea of general intellectual ability, have proved to be very useful in counselling high school students, while Guilford

*The help of Mr. W. B. Elley and Dr. F. G. Robinson, who worked on this investigation as research assistant is acknowledged. A paper on the study was presented at the June, 1960, Annual Meeting of the Canadian Psychological Association.

(14) in his recent studies of high-level intellectual performance in adults has suggested up to 120 ability factors, without hypothesizing a g.

Since Spearman considered his g to be largely innate, the perennial heredity-environment issue is closely related to the g vs. no-g issue. Recent opinions of Hebb (15) and Piaget (19) continue to remind us that none of our mental capacities develop in isolation — that early sensory-motor and perceptual associations form the essential bases for a child's later images and ideas — that the relationship between heredity and environment is "not additive but multiplicative." And so we have Vernon (24) suggesting that since we can never observe Intelligence A (innate differences due to genetic constitution), it would be wiser to forget all about it, and Burt (4) suggesting that on the contrary we should do our utmost to refine our methods of detecting such differences.

As is so often the case in such matters, these apparent conflicts can be largely explained in terms of the purposes which the theories, and the tests based on them, are intended to serve. Cronbach (8) has recently diagrammed these differences in purpose, with examples of corresponding tests, in what he calls a "Spectrum of Ability Tests." At one end of his spectrum are tests of maximum educational loading including subject-matter achievement tests, toward the centre are such tests as the California Test of Mental Maturity, while at the other end of the spectrum are tests of minimum educational loading including Raven's Progressive Matrices and the Semantic Test of Intelligence. Cronbach differentiates the functions of the tests at the two ends of the spectrum as follows:

> Those toward the top are designed for cold-blooded prediction of future school success. One who has done poorly in past schooling is a bad bet for the future, no matter what his "intelligence" may be. Those who admit students to college or award college scholarships rarely take a chance on the student "who would succeed *if* he turned over a new leaf." They prefer the test which deliberately handicaps the student who has had poor schooling or who has taken little advantage of it. On the other hand, the teacher or counsellor working with a student wants to know what undeveloped resources he has. They can rely on past achievement for an estimate of probable future accomplishment when nothing out-of-the-routine is done for the student, but the mental test ought also to locate undeveloped potential that novel treatment may bring out. For the latter purpose the most information is provided by tests of types which have a minimum overlap with achievement.

Tyler (23) also has distinguished between tests designed to predict success assuming present educational treatments are continued, and tests designed to select able persons who have the potential to succeed under changed treatment. A recent publication of the American Association for the Advancement of Science, concerned with the identification and guidance of able students (16), recognizes the utility of tests which can serve the second purpose when used

early enough in the pupil's career that remedial treatment which will capitalize on the intellectual potential so revealed can still be effected.

To relate this preamble to the investigation herein reported, the writer and some of his colleagues are engaged in several studies aimed at helping the teacher or counsellor who has this second purpose in mind. While accepting the utility of 'cold-blooded" prediction for older pupils, these studies are attempting to validate tests which, particularly for younger Canadian pupils: (a) are measures of general intellectual ability, and (b) show a minimum of environmental bias. It is intended that such tests may assist the teacher or counsellor in economically assessing the intellectual potential of such pupils as those from lower socioeconomic strata, rural children, immigrant children, hard-of-hearing children, Indian and Eskimo children, poor readers, emotionally-handicapped children, and others for whom the more common group and individual "intelligence" tests may be thought unduly culturally or educationally biased. This particular study examines, through factor analysis, the construct validity of the Coloured Progressive Matrices as a measure of general intellectual ability for a group of Edmonton Grade III boys.

Collection of Data

Measures Used. In May, 1956, more than 3,500 Edmonton Grade III children, all those attending the Edmonton Public Schools at the time, were given a battery of group ability and achievement tests. From that battery the twelve tests and sub-tests listed below were selected for purposes of this study. (Hereafter the selected tests and sub-tests will all be referred to as tests). All of the tests selected were in the general domain of intellectual abilities. From examination of the tests, their manuals, and reported research, it was expected that they would represent four main factors: a general ability factor, a verbal factor, a number factor, and a spatial factor. The reported reliabilities of the tests were about 0.8 to 0.9. Except as indicated below, raw scores were used for all tests.

A. California Short-Form Test of Mental Maturity, Primary, 1953 S-Form, Spatial Relationships. (CTMM Spatial).
B. California Short-Form Test of Mental Maturity, Primary, 1953 S-Form, Logical Reasoning. (CTMM Logical).
C. California Short-Form Test of Mental Maturity, Primary, 1953 S-Form, Numerical Reasoning. (CTMM Numerical).
D. California Short-Form Test of Mental Maturity, Primary, 1953 S-Form, Verbal Concepts. (CTMM Verbal).
E. Detroit Beginning First-Grade Intelligence Test, Revised (Detroit). This test had been administered to the sample in September, 1953. Intelligence Quotients, rather than raw scores, were used.
F. Progressive Matrices, 1957, Sets A, AB, B. (Prog. Mat.).

G. Gates Advanced Primary Reading Tests, Type 2, Paragraph Reading, (Gates Para. Read.)
H. Gates Advanced Primary Reading Tests, Type 1, Word Recognition. (Gates Word. Rec.)
I. California Achievement Tests, Primary, Form CC, Total Reading, (Calif. Tot. Read.)
J. California Achievement Tests, Primary, Form CC, Arithmetic Reasoning. (Calif. Arith. Reas.)
K. California Achievement Tests, Primary, Form CC, Arithmetic Fundamentals. (Calif. Arith. Fund.)
L. California Achievement Tests, Primary Form CC, Total Language. (Calif. Tot. Lang.)

Most of the above tests are rather well known in Canada, but some comment concerning Progressive Matrices may be in order. The 1938 version of Raven's Progressive Matrices was designed to be a measure of Spearman's g, to measure facility in perceiving relationships and educing correlates. A matrix item is a two-dimensional analogies problem in which the subject is directed only to select the design which completes the pattern. The figures of any one item are altered from left to right according to one principle, from top to bottom acording to another. The subject must identify these principles and apply them to determine the needed design. This version of the test was one of the main tests used for military classification in Britain in World War II, and considerable research on it has been reported. In one recent review of research on this test, it has been described as as good a measure of g through one non-educational modality as has appeared on the market. (3) In one interesting Canadian study Burnett (2) found that for 25 Grade IX subjects from each of Halifax, St. John's, and Newfoundland Outports the mean Wechsler-Bellevue Performance I.Q.'s were respectively 103, 103, and 88, while the mean scores on Progressive Matrices 1938 were respectively 38, 42, and 41; this study, like many others, suggestes that Progressive Matrices is much less culturally loaded than is the Performance Scale of the Wechsler-Bellevue.

An easier and coloured version of Progressive Matrices, for children of ages 5 to 11 years, was published in 1947; this was the test used in the present investigation. As with the 1938 version, the order of the problems in each set provides the standard training in the method of working, so that it is necessary only to show the person what to do (by pantomime if necessary), to let him work through the problems in standard order, and to learn from his own experiences how to solve them. The test may be used in group or in individual form. Published research on the Coloured Progressive Matrices is rather sparse. For 100 nine-year-old Indiana school children it was found to correlate 0.91 with Full-Scale WISC I.Q.'s (18); for about 200 nine-year-old Minnesota school children it was found to correlate 0.71, 0.42, and 0.56 respectively with Otis,

California, and Kuhlmann-Anderson I.Q.'s (13); for 200 Indiana children entering Grade I it was found to be somewhat too difficult. (17) The published norms are considered by most writers to be quite unsatisfactory for North American use.

Subjects. The sample of 300 boys used in this study was selected from 3,500 Edmonton Grade III pupils taking part in the 1956 testing program. The sample was stratified by schools, with the individuals within each school selected using a table of random numbers. Only those boys for whom Detroit Beginning First-Grade Intelligence Test scores were available were used in determining the quota for each school, and the selected individuals within each school. The median age for the sample was 9 years, 1 month.

Analysis and Interpretation

The Pearson product-moment correlations amongst the twelve tests are reported in Table I.

The correlation matrix was factor analyzed by Thurstone's centroid method, inserting the highest correlation of each column in the diagonal cells. Four factors were considered significant. These

TABLE I

CORRELATION MATRIX

(Decimal points omitted)

	A	B	C	D	E	F	G	H	I	J	K	L
A. CTMM Spatial												
B. CTMM Logical	095											
C. CTMM Numerical	219	191										
D. CTMM Verbal	—021	222	179									
E. Detroit	168	213	441	324								
F. Prog. Mat.	243	078	311	178	291							
G. Gates Para. Read.	214	162	287	274	468	323						
H. Gates Word Rec.	150	099	282	399	414	333	744					
I. Calif. Tot. Read.	164	196	274	274	414	298	712	741				
J. Calif. Arith. Reas.	116	172	318	238	438	334	578	546	624			
K. Calif. Arith. Fund	186	146	282	242	324	288	442	438	400	508		
L. Calif. Tot. Lang.	080	168	354	306	468	324	564	702	652	556	468	

were rotated orthogonally using the two-by-two graphical method, and using positive manifold and psychological meaning as the main criteria in rotation. (22) The rotated factor solution is reported in Table II.

The writer views factor analysis as basically just a helpful means of classifying the way persons behave in test situations. As with many other classification procedures, the same data may often be classified in several ways, and the particular classification selected is the one likely to be meaningful and useful. Thus other analysts might or might not arrive at factor solutions different from the one presented. It is submitted, however, that the rotated factor matrix presented in Table II is rather unusually compelling insofar as psychological meaning is concerned, and is one likely to provide information useful to teachers and others concerned with assessing the intellectual abilities of young boys.

TABLE II

ROTATED FACTOR SOLUTION

(Loadings below 0.100 omitted from centre block of table)

	I	II	III	IV	h^2
A. CTMM Spatial	.479				.248
B. CTMM Logical	.175		.322	.163	.169
C. CTMM Numerical	.518		.225	.257	.393
D. CTMM Verbal	.169		.509	.135	.313
E. Detroit	.468		.427	.251	.468
F. Prog. Mat.	.556				.322
G. Gates Para. Read.	.559	.551	.320		.721
H. Gates Word Rec.	.476	.622	.423		.797
I. Calif. Tot. Read.	.467	.623	.359		.735
J. Calif. Arith. Reas.	.458	.475	.183	.355	.595
K. Calif. Arith. Fund.	.456	.302		.363	.441
L. Calif. Tot. Lang.	.395	.520	.380	.274	.646
Prop. of Variance	.201	.142	.100	.044	.487

The last column of Table II indicates that only about one-half of the variance of these twelve tests is held in common, suggesting that a considerable proportion of the variation in the scores the boys made on these tests must be accounted for by factors other than the four identified. The achievement tests have the highest communalities, while the Detroit, taken twenty-two months before any of the other eleven tests, has the highest communality of the ability tests.

Factor I runs positively through all of the tests, with its highest

loadings on Gates Paragraph Reading, Progressive Matrices, and CT MM Numerical. It accounts for 41 percent of the communal variance. It is interpreted as a general intellectual ability factor similar to Spearman's g, involving facility in perceiving relationships and inferring further relationships.

Factor II, accounting for 29 percent of the communal variance, has high loadings on all of the achievement tests, but no loadings on the ability tests. It is clearly a schooling factor, whose exact nature cannot be interpreted in this study, but which likely includes such influences as the teaching received, particularly in reading, pupil attitudes toward school and school work, and so forth.

Factor III, accounting for 21 percent of the communal variance, has loadings on all tests of a verbal nature with its highest loading on CTMM Verbal, and has no loadings on the three tests which appear to be non-verbal. It is clearly a verbal factor.

Factor IV, accounting for 9 percent of the communal variance, has high loadings on the arithmetic tests, and is clearly a number factor. The loading of California Total Language on this factor might at first appear puzzling, but examination of this test shows that it is based almost entirely upon such mechanics of language as punctuation and spelling, which at this age-level might likely be associated with the mechanics of arithmetic.

It will be noted that although several of the tests might be thought to be spatial in nature, no spatial factor appeared. A fifth factor, although not significant, was retained in the rotations for a time, but did not appear to have psychological meaning, and certainly was not spatial in nature.

Conclusions

1. The four factors emerging from this study can be clearly identified as g, schooling, verbal, and number.

2. The Coloured Progressive Matrices is one of two tests having highest loadings on g, and has no loadings on the other factors.

3. Coloured Progressive Matrices warrants more intensive investigation as a relatively culture-free and economical measure of general intellectual ability. Such investigation should include studies similar to this at other age-levels, in other types of communities, and for girls, and should include the establishment of appropriate norms.

4. Pending such investigations, this test can be usefully employed as an indicator of g for urban boys of about age nine years for whom more common group or individual "intelligence" tests may be considered unduly educationally or culturally biased.

5. For groups such as that studied, the Detroit Beginning First

Grade Intelligence Test has loadings of about 0.4 to 0.5 on each of g and verbal ability, with lesser loading on the number factor. Its relatively high communality, even though administered twenty-two months before any other tests in the battery, indicates its value as a predictor of achievement at the end of Grade III for classes receiving the usual type of teaching.

6. The loadings of the various sub-tests of the California Short Form Test of Mental Maturity, Primary, raise some questions as to whether these sub-tests are appropriately named.

7. Table II gives an indication of the factor loadings of the achievement tests. Though the exact nature of the schooling factor could not be ascertained, the importance in Grade III achievement of influences other than ability factors is clearly demonstrated.

Summary

This study is one of a series concerned with the validation of measures of general intellectual ability having minimum educational and cultural loading, and was particularly concerned with the nature of abilities measured by the Coloured Progressive Matrices. For a stratified random sample of 300 Edmonton Grade III boys, intercorrelations of twelve ability and achievement measures were factor analyzed by the centroid method with orthogonal rotation, yielding four factors identified as g, schooling, verbal, and number.

Coloured Progressive Matrices was one of two tests having highest loadings on the first factor, and had no loadings on the other factors. It was concluded that this test can be employed as an economical indicator of general intellectual ability for boys of this age for whom group or individual "intelligence" tests may be considered unduly educationally or culturally biased. Information concerning the factorial structure of the other tests was obtained.

Prediction problems in which it is assumed that the pupil will continue in an environment similar to that of his past, are contrasted with prediction problems in which it is assumed that the pupil's environment may be altered to better realize his potentialities. Further factor-analytic, longitudinal, and cross-cultural studies in the series are proceeding.

REFERENCES

1. Black, D. B. "The Prediction of Freshman Success in the University of Alberta from Grade XII Departmental Results." *Alberta Journal of Educational Research,* VI, 1 (March, 1960). 38-53.
2. Burnett, A. Paper presented at June, 1957 Annual Meeting of Canadian Psychological Association, (Exact title of paper unknown).
3. Burke, H. R. "Raven's Progressive Matrices: a Review and Critical Evaluation." *Journal of Genetic Psychology,* 93, 1958, 199-228.
4. Burt, C. "General Ability and Special Aptitudes." *Educational Research,* 1, 2, (Feb., 1959), 3-16.

5. *California Achievement Tests, Primary...* Los Angeles: California Test Bureau, 1951.
6. *California Short-Form Test of Mental Maturity, Primary.* Los Angeles: California Test Bureau, 1953.
7. Clarke, S. C. T. "Review of Some Previous Studies of Matriculation Problems." *Alberta Journal of Educational Research,* IV, 1, (March, 1958), 30-39.
8. Cronbach, L. J. *Essentials of Psychological Testing.* New York: Harpers, 1960.
9. *Detroit Beginning First-Grade Intelligence Test.* Yonkers-on-Hudson: World Book Company, 1937.
10. Evenson, A. B. and Smith, D. E. "A Study of Matriculation in Alberta." *Alberta Journal of Educational Research,* IV, 2, (June, 1958), 67-83.
11. *Gates Advanced Primary Reading Tests, Type* 2. *Paragraph Reading.* New York: Teachers College, Columbia University, 1942.
12. *Gates Advanced Primary Reading Tests, Type* 1. *Word Recognition.* New York: Teachers College, Columbia University, 1942.
13. Green, M. W. and Ewert, J. C. "Normative Data on Progressive Matrices (1947)," *Journal of Consulting Psychology,* 19, 2, 1955.
14. Guilford, J. P. *Personality.* New York: McGraw-Hill, 1959.
15. Hebb, D. O. *A Textbook of Psychology.* Philadelphia: Saunders, 1958.
16. *Identification and Guidance of Able Students.* Washington: American Association for the Advancement of Science, 1958.
17. Jordan, T. E. and Bennett, C.M. "An Item Analysis of the Coloured Progressive Matrices (1947)," *Journal of Consulting Psychology,* 21, 3, 1957.
18. Martin, A. and Wiecker, J. E. "Raven's Colored Progressive Matrices and the Wechsler Intelligence Scale for Children," *Journal of Consulting Psychology,* 18, 2, 1954.
19. Piaget, J. *The Psychology of Intelligence.* London: Routledge and Kegan Paul, 1950.
20. *Progressive Matrices* 1947, *Sets A, AB, B.* London: H. K. Lewis, 1947.
21. Terman, L. M. "The Discovery and Encouragement of Exceptional Talent." *Test Service Notebook No.* 14. Yonkers-on-Hudson: World Book Company, 1954.
22. Thomson, G. H. *The Factorial Analysis of Human Ability.* London: University of London Press, 1951.
23. Tyler, R. W. "Can Intelligence Tests Be Used to Predict Educability?" in Eells, K. *Intelligence and Cultural Differences.* Chicago: University of Chicago Press, 1951.
24. Vernon, P. E. "A New Look at Intelligence Testing." *Educational Research* I, 1, (Nov., 1958), 3-12.
25. Wechsler, D. *The Measurement and Appraisal of Adult Intelligence.* Baltimore: Williams and Wilkins, 1958.

TEACHER QUALIFICATIONS AND GRADE X MATHEMATICS ACHIEVEMENT

SIDNEY A. LINDSTEDT
Faculty of Education
University of Alberta

The competence of teachers is obviously of primary importance in any educational system. The Report of The Alberta Royal Commission on Education (1) states, "The most important factors in the success or failure of education are the quality and supply of teachers."

Many factors make up that complex quality called teacher competence. Some of these factors are tangible and can be objectively measured: experience, training, educational background in a specific subject area, subject preference. Other factors, obviously of great importance, are intangible and can only be measured subjectively: attitude, interest, industry and personality.

This study is limited to a consideration of only those characteristics which can be measured with some degree of objectivity. Such characteristics are currently being used for very practical purposes, for example, years of training and years of experience make up the main determinants for teachers' salary schedules, and teacher-training programs recognize the importance of background content courses in specific subjects.

In order to determine what effect these factors have upon teacher competence, it is necessary to have some criteria for the measurement of this competence. Such criteria are difficult to establish; they will vary with the many divergent philosophies of educational objectives. However, two reports of The Committee on Criteria of Teacher Effectiveness (2) have listed *student achievement* as one of the "ultimate criteria" of teacher effectiveness.

Student achievement in turn, may be measured in various ways, each way dependent upon its own catalogue of objectives. The results of examinations is one way, and a study by D. B. Black (3) indicates that the Grade IX Departmental Examinations are valid measures of educational achievement.

This study then investigates the impact that certain tangible and measureable characteristics have upon the competence of teachers. The characteristics selected are (a) years of teaching experience, (b) years of training, (c) the number of University mathematics courses taken, and (d) the subject preference of the

teacher. The results of their pupils on the final examination in Grade IX mathematics are the criteria for measuring teacher competence.

The Collection and Validation of Data

This study is limited to teachers of Grade IX mathematics in Alberta schools during the year 1957-58. During the spring term of 1958, the Alberta Royal Commission on Education conducted a survey of the teacher force in the province. An extensive report (4) was prepared which compiled and analyzed the data in a 55-item questionnaire which had been completed by over 99% of the teachers. This report contains reliable data relative to the four characteristics listed above.

The official records in Grade IX mathematics final examination for 1958 of the Examination Branch of the Department of Education are used to measure student achievement, which in turn, is the criterion used to measure teacher competence. The standings are recorded in stanines. The students are grouped together by schools and therefore, in many cases, by teachers.

However, in larger schools, where more than one teacher is involved in teaching Grade IX mathematics, it is not possible to relate pupils to a particular teacher. For this reason, all Grade IX mathematics teachers can not be included in this study. A sample of 22% of the total population is used. Teachers from all Divisions, Counties, from the cities of Calgary and Edmonton, and from independent school districts make up a sample of 161, with a proportionate number of teachers from city schools and from non-city schools.

This sample requires some validation for representativeness, particularly because it includes only the smaller schools in cities. To determine its representativeness, the sample is compared to the total population of Grade IX mathematics teachers with respect to certain factors, and the Chi^2 test for "goodness of fit" is applied.

Table I presents a summary of the results of these comparisons, and in each case, the Chi^2 test indicates that the sample is representative of the total population. The data provided by the sample may therefore be used with confidence to determine whether or not there are any significant differences in teacher competence dependent upon the factors under consideration.

TABLE I

REPRESENTATIVENESS OF SAMPLE OF GRADE IX MATHEMATICS TEACHERS, RELATIVE TO VARIOUS FACTORS

Groups Compared	Factors for Comparison	Chi^2	d.f.	P.	Difference
Sample of 161 Teachers to Total Population	Years of Teaching Experience	7.42	4	.12	Not Sig.
Sample of 161 Teachers to Total Population	Years of Professional Training	.99	2	.62	Not Sig.
Sample of 161 Teachers to Total Population	Number of University Mathematics Courses Taken	1.85	3	.62	Not Sig.
Sample of 161 Teachers to Total Population	Subject Preference of Teachers	.41	1	.53	Not Sig.
Sample of 26 City Teachers to Total Population of City Teachers	Years of Teaching Experience	3.77	4	.63	Not Sig.
Sample of 135 non-city teachers to Total population of Non-city Teachers	Years of Teaching Experience	5.87	4	.21	Not Sig.
Sample of 5590 Students to Total Population of Gr. IX Students	Stanine Scores in Mathematics	3.08	6	.80	Not Sig.
Sample of 1664 City Students to Total Population	Stanine Scores in Mathematics	4.47	6	.61	Not Sig.
Sample of 3926 Non-city students to Total Population	Stanine Scores in Mathematics	3.35	6	.77	Not Sig.

Analysis of Data

First subsidiary problem

Are there any significant differences between city school teachers and non-city school teachers with respect to experience, years

of training, mathematics background, and placement in their preferred subject area?

When the total population of city teachers of Grade IX mathematics is compared to the total population of non-city teachers of Grade IX mathematics with respect to the above mentioned factors, the Chi^2 test of independence gives the results that are reported in Table II.

TABLE II

DIFFERENCES BETWEEN CITY SCHOOL TEACHERS AND NON-CITY SCHOOL TEACHERS OF GRADE IX MATHEMATICS WITH RESPECT TO CERTAIN FACTORS

Variable for Comparison	Chi^2	d.f.	P.	Difference
Years of Teaching Experience	7.01	4	.14	Not sig.
Years of Training*	111.86	3	less than .01	Very sig.
No. of Univ. Math Courses	60.50	3	less than .01	Very sig.
Preference for Math-Science	14.60	1	less than .01	Very sig.

*Academic and Professional training beyond Grade XII.

Compared to non-city school teachers, city school teachers have more years of training, a greater number of University mathematics courses, and a greater preference to teach in the mathematics-science field.

Second subsidiary problem

The analysis of the first subsidiary problem above, indicates that city teachers do differ from non-city teachers with respect to 3 measurable traits. Are these differences reflected in the results of pupils on the Grade IX final examination in mathematics? Do city school pupils have a higher standing than non-city school pupils?

Comparing the stanine scores of 1,664 city school pupils with the scores of 3,926 non-city school pupils, and using the Chi^2 test of independence, the results indicate no significant difference between the two groups.* In this comparison, the influence of these 3 tangible factors is apparently absorbed by the impact of many other important factors which produce teacher competence.

*$Chi^2 = 4.85$; d.f. $= 8$; $P = .75$

Main Problem

Notwithstanding the results of the analysis of the second subsidiary problem above, further consideration is given to each of the 4 factors to determine whether or not any significant difference is reflected in the results of the final examination. The factors are considered separately and in combinations. A more powerful technique—that of analysis of variance—is used to make the comparison.

The influence of years of teaching experience. When pupils are divided into groups according to the years of teaching experience of their teachers, and when the mathematics stanine scores of these groups are compared, the Chi^2 test of independence indicates some significant differences between groups. An analysis of variance is used to determine exactly where these differences occur. Table III summarizes the results of this analysis.

TABLE III

ANALYSIS OF VARIANCE: GRADE IX MATHEMATICS RESULTS WITH PUPILS GROUPED BY THE YEARS OF TEACHING EXPERIENCE OF THEIR TEACHERS

	Group 1 Teachers with 1 year Experience	Group 2 Teachers with 2 years Experience	Group 3 Teachers 3 or 4 years Experience	Group 4 Teachers 5 to 9 years Experience	Group 5 Teachers 10 or more Years of Ex.
No. of pupils	115	108	558	1,183	2,418
Σ Scores	573	502	2,655	5,863	12,343
Mean	4.98	4.65	4.76	4.96	5.10
S.D.^{2}	3.88	3.82	4.11	3.84	3.59

Total no. of pupils: 4,382; Total Σ Scores: 21,936; Means of Totals: 5.01

Applying the t-test, significant differences are found between the means of Groups 3 and 4, $(.01 < P < .0.5)$, between Groups 2 and 5, $(.01 < P < .05)$, between Groups 3 and 5, $(P < .01)$, and between Groups 4 and 5, $(P < .01)$. For all other combinations P is greater than .05.

Teachers with 10 or more years of experience are more effective than teachers with less experience with the exception of those with only one year's experience. (However, in this study, only 6 teachers are involved in the group with 1 year of experience and this small number affects the validity of any finding relative to this

group.) Teachers with 5 to 9 years of experience are more effective than those with 3 or 4 years of experience.

The influence of years of training beyond Grade XII. The Chi^2 test of independence indicates no significant differences between the mean scores of groups of pupils classified by the years of training of their teachers. ($Chi^2 = 21.88$; $df = 16$; $P = .15$) However, an analysis of variance does indicate some significant differences. Table IV summarizes this analysis.

TABLE IV

ANALYSIS OF VARIANCE: GRADE IX MATHEMATICS RESULTS WITH PUPILS GROUPED BY THE YEARS OF TRAINING OF THEIR TEACHERS

	Group 1	Group 2	Group 3
	Teachers with 1 year or less of Training	Teachers with 2 or 3 years of Training	Teachers with 4 years or more of Training
No. of pupils	1,053	1,508	2,644
Σ Scores	7,513	7,389	13,520
Mean	4.99	4.90	5.11
S.D.^{2}	3.91	3.67	3.48

Total no. of pupils: 5,655; Total Σ scores: 28,422; Mean of Totals: 5.03

The t-test indicates significant differences between the means of groups 1 and 3 ($P = .04$); between the means of groups 2 and 3 ($P < .01$) but not between the means of groups 1 and 2 ($P > .10$). This indicates that no significant differences are found until 4 or more years of training is reached.

The influence of training combined with experience. A two-way analysis of variance is presented with the teachers grouped horizontally by years of experience, and vertically by years of training. Table V is a summary of this analysis.

The following combinations of the above groups are now considered:

Combination A: Groups 1, 2, and 4. Mean: 4.66
Combination B: Groups 3, 5, and 7. Mean: 5.01
Combination C: Groups 6, 8, and 9. Mean: 5.14

TABLE V

TWO-WAY ANALYSIS OF VARIANCE: GRADE IX MATHEMATICS RESULTS WITH PUPILS GROUPED HORIZONTALLY BY TEACHERS' YEARS OF EXPERIENCE AND VERTICALLY BY TEACHERS' YEARS OF PROFESSIONAL TRAINING

Years of Professional Training	Years of Teaching Experience			Means of totals for years of professional training
	Up to 4 years	5 to 9 years	10 or more years	
Up to 1 year	Group 1 Mean: 4.71	Group 2 Mean: 4.38	Group 3 Mean: 5.25	4.78
2 or 3 years	Group 4 Mean: 4.88	Group 5 Mean: 5.07	Group 6 Mean: 4.99	4.98
4 or more years	Group 7 Mean: 4.70	Group 8 Mean: 5.24	Group 9 Mean: 5.20	5.05
Mean of totals for experience	4.76	4.89	5.15	4.94

Application of t-test shows that combination A, representing small amounts of training and experience, differs significantly ($P = .035$) from combination B, representing more training and experience, and differs very significantly ($P < .01$) from combination C, representing the most training and experience. In general these data indicate that a combination of training and experience increases significantly the competence of Grade IX mathematics teachers.

The influence of the number of University mathematics courses taken by the teacher. When pupils are divided into groups according to the number of University mathematics courses taken by their teachers, and when the stanine scores in the Grade IX final examination in mathematics for each of these groups are compared by using the Chi^2 test of independence, no significant differences are found. An analysis of variance also produces a result of no significant differences among the means of these groups. The number of University mathematics courses taken by teachers

does not reflect any significant differences in the competence of Grade IX mathematics teachers, when that competence is measured by the results of the pupils in the final examination.

The influence of subject-preference of teachers. In this analysis, the teachers are divided into two groups, viz: (1) those who listed the mathematics-science field as their number one preference, and (2) those who listed some other subject area as their number one preference. The stanine scores in mathematics of the pupils whose teachers are in Group 1 are significantly higher than the scores of pupils whose teachers are in group 2, according to a Chi^2 test of independence. $Chi^2 = 30.16$; d.f. $= 8$;; $P < .01$.

Summary of Findings*

1. There are some significant differences between city school teachers and non-city school teachers: city school teachers have more training, more mathematical background, and more preference for the mathematics-science field.

2. There are no significant differences in teaching experience between city teachers and non-city teachers.

3. Teachers with 10 or more years of experience are more competent** than teachers with less experience, with the exception of those with 1 year experience. (This latter group represented by only 6 teachers in this study, is not reliably measured.) Teachers with 5 to 9 years of experience are more competent than teachers with only 3 or 4 years of experience.

4. Teachers with 4 or more years of training are more competent than teachers with less training.

5. Teacher competence is consistently increased when years of training are combined with years of experience.

6. The number of University mathematics courses taken by teachers does not reflect any significant difference in the results of Grade IX mathematics examinations of pupils.

7. Those teachers who indicate that the mathematics-science field was their number one preference have pupils with a higher average standing in the final mathematics examination.

Recommendations

This study uses data from The Teacher Force of Alberta, 1957-1958, a report prepared by MacArthur and Lindstedt for the Alberta Royal Commission on Education. The information contained in this

*These apply only to Grade IX teachers of mathematics during the school year 1957-58.

**This competence measured by the standing of their pupils in the final mathematics examination, June, 1958.

report should be used for further research to complement the findings of this study. In particular, the following studies are recommended:

1. Similar studies in other subject areas. The findings in, say, the field of English, may be different; the composite results for all Grade IX subjects would be very interesting.

2. Similar studies should be made at the Grade XII level. The findings with respect to teachers of Mathematics 30 may be different from the ones reported in this study.

3. Similar studies, using more "intangible" factors, should be made to complement the findings of this report.

Because years of training and years of experience are the basic factors in the structure of teachers' salary schedules, this report has some implications in this area. If salary is to be related in some measure to the effectiveness of the teacher, this study, while it does not provide a clear blueprint for providing this relationship, indicates a few guideposts for the general principles upon which schedules may be based. A more prescriptive combination of training and of experience may improve the reliability of salary schedules with respect to the recognition of teacher effectiveness.

This study, also, has implications for the programs offered by teacher-training institutions. It suggests that the program should be of at least 4 years duration. It points out the desirability of combining training with experience. Perhaps the practice-teaching courses should be increased in number and in length, or the implication may be that some type of apprenticeship should be introduced into the training program.

The results of complementary surveys, as suggested in the recommendations above, must be analyzed before making any suggestions regarding the importance of content courses in a teacher-training program. There may be implications, here, concerning further differentiation between the certification of High School teachers and of Junior High School teachers, and concerning the nature of content, background courses for teachers.

One fairly clear generalization, which this survey substantiates, is that teachers do best in the subject-field which they prefer. Superintendents, principals and other administrators are respectfully reminded of this when making placements.

REFERENCES

1. *Report of the Royal Commission on Education*, Edmonton: Queen's Printer, 1959.
2. Report of the Committee on the Criteria of Teacher Effectiveness, *Review of Educational Research*, XLVI: June, 1952, and *Journal of Educational Research*, XLVI: May, 1953.

3. Black, D. B., "The Prediction of University Freshman Success Using Grade IX Department Examination Scores," *The Alberta Journal of Educational Research,* Vol. 5, No. 4, Edmonton: The University of Alberta, Dec., 1959.
4. MacArthur, R. S. and Lindstedt, S. A., "The Alberta Teacher Force", A Study Prepared for the Alberta Royal Commission on Education, Edmonton: Oct., 1958.

THE USE OF WECHSLER INTELLIGENCE SCALE FOR CHILDREN IN THE DIAGNOSIS OF RETARDED READERS*

W. B. Dockrell
Faculty of Education

Since the publication of "The Measurement of Adult Intelligence" (11) in 1939, attempts have been made to use differences between subtests on the Wechsler scales for diagnostic purposes. Clinicians have been cautioned on the use of these subtests for two reasons. Thorndike and Hagen (10) express the first reason when they observe that "A profile must be interpreted with a good deal of caution because even unreliable differences may look quite impressive". Cronbach (3) in discussing a formula for identifying psychopaths points out the second difficulty saying that "These signs would falsely label many adequately adjusted people".

Techniques have been developed to meet the first problem. Haxwell (8) and Davis (4) have each developed methods of estimating the reliability of subtest differences. A modification of Davis's technique has been developed in the Education Clinic of the University of Alberta which will be published shortly.

This paper is concerned with the second problem, demonstrating the empirical validity of the profile, and also with a third problem, establishing the diagnostic significance of a profile. The use of the diagnosis has been a source of much confusion. A test score or profile can be used for classifying, that is, assigning an individual to one of several categories, or for diagnosis, that is, identifying a cause or explanation of the behaviour. The term 'retarded readers' is a gross classification of a condition that can be the result of a number of causes. Diagnosis is the second step that would establish the cause of the retardation in a specific case.

Related Studies

Altus (1) attempted to isolate empirically the WISC signs of reading retardation in the profiles of twenty-five children. She apparently used the profile only for categorizing and not for diagnosis. It seems unlikely that a WISC profile would be used for classifying in this way. A reading test would always be used and the retardation would, therefore, be demonstrated independently of the WISC profile. Altus (1) too, had no control group and as Sheldon

*Based in part on a paper presented to the 1960 Annual meeting of the Canadian Psychological Association. The author's thanks are due to Miss J. Reid and Mr. W. Elley for assembling the data and for much of the statistical computation.

and Garton (9) point out "it would have been possible to account for (the profile) in terms of other variables common to the sample of children used." Sheldon and Garton improved on this by using a group of children matched for age and sex but classified as not possessing "a known reading difficulty". It is not clear how adequate a control this is. Sheldon and Garton do not say how they obtained their control group nor whether such variables as "ethnic group" and "value of the sub-culture" (9) or indeed actual reading retardation, were controlled. In view of the very small size of the experimental group, eleven, detailed matching seems advisable. To get "a more sensitive picture of the differential performance of poor readers" (9) Sheldon and Garton reverted to an earlier proceeding (Burks and Bruce (2)) and calculated deviation scores rather than average scaled scores. It is difficult therefore to compare the profiles from these studies, with the others.

Two studies which attempted a theoretical explanation of their findings were Graham (6) and Burks and Bruce (2). Graham analysed profiles of thirty-one children referred to the Psychological Services for Children at the University of Denver. He used no control group but made the interesting observation that ranking tests with others in the same scale, rather than on the full profile, eliminated apparent anomalies. He pointed out that his findings are congruent with the hypothesis that "the U.R. (unsuccessful reader) is resisting, unconsciously, the emotional climate of the school or home" (6). Burks and Bruce (2), with an experimental group of thirty-one poor readers and a control group of good readers, contrasted the deviations of scores in test age. The use of a control group of good readers would presumably emphasize the aspects of the WISC profiles relevant to achievement in reading. On the basis of their findings Burks and Bruce hypothesized "a pattern common to poor readers which can be understood in terms of Goldstein and Scheerer's concepts of concrete and abstract attitudes" (2).

Further sifting through of test protocols, to obtain an empirical profile, did not seem necessary. Instead precise hypotheses were formulated on the basis of clinical observation and the preceeding research. Because of the theoretical and experimental limitations of the Altus and Sheldon and Garton studies the hypotheses were derived for the most part from Graham and Burks and Bruce. They were, that in the Verbal Scale both Comprehension and Similarities would be greater than each of the other three subtests and, on the performance Scale, that Picture Arrangement would be greater than Coding and Block Design and that Block Design would be greater than Coding.

Procedures

The subjects of the investigation were all children accepted for remedial instruction by the Education Clinic of the University of Alberta in 1959 and 1960 for whom a full WISC profile was available, a total of thirty-four. All had a discrepancy of at least two years between expected reading level as derived from the WISC Full Scale I.Q. and actual reading level as measured by the Gray Oral Reading test. The group consisted of twenty-nine boys and five girls ranging in age from 8.2 years to 14.9 years with a mean age of 11.1 years. Their mean WISC I.Q.'s were Verbal Scale 100.68, Performance Scale 107.70 and Full Scale 104.53. The standard deviations were 11.75, 12.44 and 11.06, respectively. The mean I.Q.'s are slightly above Wechsler's norms but within the normal range. No control group was used. Differences due to age and sex were tested within the experimental group. No ethnic nor subcultural factor was found that distinguished the experimental group from the total school population. The hypothesis was, therefore, that the retarded readers would show a subtest pattern that distinguished them from the population as a whole. The standards for the population as a whole were Wechsler's norms. These norms are currently being checked for Alberta and though the sample is not yet complete no significant subtest differences have yet been found.

Results

Table I gives the t test of the differences between WISC subtest means of the group of retarded readers.

TABLE I

T TESTS OF THE DIFFERENCES BETWEEN MEAN SUBTEST SCORES

Subtest	Mean	Subtest	Mean	Diff.	t	
Comprehension	11.53	Information	8.68	2.85	5.94	sig. at .01 level
Comprehension	11.53	Arithmetic	9.24	2.29	4.24	sig. at .01 level
Comprehension	11.53	Vovabulary	9.76	1.77	4.02	sig. at .01 level
Similarities	11.44	Information	8.68	2.76	5.74	sig. at .01 level
Similarities	11.44	Arithmetic	9.24	2.20	4.89	sig. at .01 level
Similarities	11.44	Vocabulary	9.76	1.68	5.60	sig. at .01 level
Picture Arrang.	12.32	Coding	9.53	2.79	3.67	sig. at .01 level
Picture Arrang.	12.32	Block Design	10.85	1.47	2.49	sig. at .05 level
Block Design	10.85	Coding	9.53	1.32	1.76	not sig.

Discussion

Figure I and Table II compare the findings of this and previous studies. The present study confirms the findings of Graham (6).

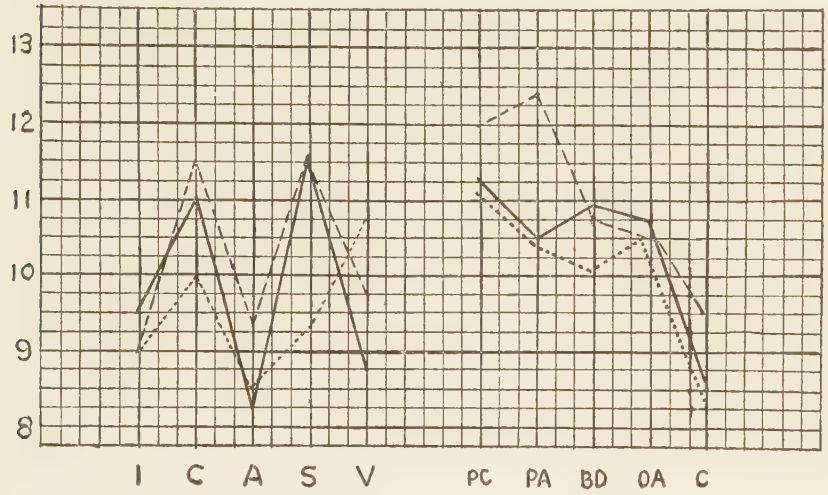

Fig. 1—THREE WISC PROFILES*

*Compare with Sheldon and Garton's graph: Alberta Journal of Educational Research, December, 1959, p. 266.

TABLE II

WISC SIGNS OF RETARDED READERS*

Graham	—	—	**L**	**H**	**L**	—	—	—	—	**L**
Burks & Bruce	**L**	**H**	**L**	—	—	—	**H**	**H**	—	**L**
Altus	**L**	—	**L**	—	*H*	H	**H**	—	**H**	**L**
Sheldon & Bruce	—	—	—	—	—	—	—	**H**	**H**	**L**
Dockrell	**L**	**H**	**L**	**H**	**L**	—	**H**	—	—	**L**
Subtests	I	C	A	S	V	PC	PA	BD	OA	C

H: HIGH L: LOW —: NO FINDINGS

Bold Type indicates — Agreement
Italic Type indicates — Disagreement
Light Type indicates — Unique Finding

* Within scales where data reported permits.

It confirms five of the six findings of Burks and Bruce (2). The sixth difference in the present study is in the same direction as in Burks and Bruce's study but is not as large and is therefore not statistically significant. The study confirms Altus' findings that the Coding, Arithmetic and Information are low and that Picture Arrangement and Picture Completion are high. It fails to confirm the finding that Object Assembly is high and disagrees with the finding that Vocabulary is high. The study fails to confirm any of Sheldon and Garton's (9) findings. Under the mistaken impression the "Altus' highest mean subtest was Object Assembly" (9) Sheldon and Garton place their major emphasis on this subtest. None of the other studies agrees with them.

On examination of the studies other than that of Sheldon and Garton, a clear pattern emerges. Retarded readers, on average, are low in Information, Arithmetic and possibly Vocabulary on the Verbal Scale and higher on Comprehension or Similarities. On the Performance Scale they are low on Coding and high on Picture Arrangement and possibly Block Design or Object Assembly. Both Graham and Burks and Bruce interpret their findings in some detail but in view of the disparities it seems wiser to interpret with caution. Arithmetic and probably Information and Vocabulary are lower than the other verbal tests. In our society much of the knowledge and skills in the three low areas are derived either from school or reading. They could, therefore, either be a result of poor reading or indicate a more general difficulty with the school, but not necessarily "unconscious resistance." (6)

The only other certain finding is that Coding is lower than other Performance subtests. Burks and Bruce draw attention to this and stress the memory function in Coding. This subtest, however, merits further examination. Learning to recognize nine meaningless symbols, to reproduce them accurately and to relate them to established meanings (digits) closely resembles learning to read and write. It isolates the visual aspects of reading from the auditory and from meaningful association. Of the skills needed in reading, Coding taps only visual discrimination and memory. Goins (5) has pointed out that it is possible to predict good and poor readers before Grade I by a test of visual memory and discrimination. A recent study at the University of Alberta investigated the effects of tachistoscopic training on two groups of Grade V and VI children —one group with good and one with poor Visual Form Memory scores on the Monroe and Sherman Diagnostic Reading Test. As a result of the training, the high visual memory group increased their reading rate and the low group declined. It is hypothesized, therefore, that Coding measures this visual discrimination and memory skill that is so important in learning to read both letters and numbers

throughout the primary school; and further, that a typical retarded reader WISC profile with a low Coding score is a diagnostic sign of importance in planning a remedial programme. Research along these lines is currently proceeding.

REFERENCES

1. Altus, G. T. "A WISC profile for retarded readers." *Journal of Consulting Psychology,* 1956, p. 20, 1955, p. 156.
2. Burks, H. F. and Bruce, P. "The characteristics of poor and good readers as disclosed by the WISC." *Journal of Educational Psychology,* 1955, Vol. 46, 488-493.
3. Cronbach, L. J. *Essentials of psychological testing.* New York: Harper Bros., 1959.
4. Davis, F. B. "Standard errors of measurement of differences important for diagnosiing the aptitude and achievement of individuals." *Sixteenth Yearbook.* National Council on Measurements Used in Education, 1959, 130-133.
5. Goins, J. T. *Visual perceptual abilities and early reading progress.* Chicago: University of Chicago Press, 1958.
6. Graham, E. E. "Wechsler-Bellevue and WISC scattergrams of unsuccessful readers." *Journal of Consulting Psychology,* 1952, Vol. 16, 268-271.
8. Marcum, E. "Tachistoscopic training as a method of improving rate of reading for subjects with good visual form memory." A paper submitted to the author as part of a more general project in Child Psychology.
9. Maxwell, A. . "Tables to facilitate the comparison of subtest scores on the WISC. "*Journal of Clinical Psychology,* 1959, Vol. XV, 233-237.
10. Sheldon, M. S. and Garton, J. "A note on 'A WISC Profile for retarded readers'." *Alberta Journal of Educational Research,* 1959, Vol. V, 264-267.
11. Thorndike, R. L. and Hagen, E. *Measurement and evaluation in psychology and education.* New York: John Wiley and Sons, 1955.
12. Wechsler, D. *The measurement of adult intelligence.* Baltimore: Williams and Wilkins, 1939.
13. Wechsler, D. *The Wechsler intelligence scale for children.* New York: The Psychological Corporation, 1949.

TEACHER SATISFACTIONS AND DISCOURAGEMENTS

J. D. Aikenhead
Faculty of Education
Calgary

The Problem

This study is concerned with the satisfactions and discouragements of beginning teachers. More than 2,000 teachers in Manitoba, Saskatchewan and Alberta started to teach in September, 1958. From these 148 were selected for this study by superintendents of schools in the southern part of the prairie provinces. The superintendents explained the study and asked the principals, or the teachers, if they would wish to answer an anonymous questionnnaire during an interview. The superintendents gave the teachers' names to the present writer when he called early in June, 1959. In addition some respondents were contacted during July, 1959, at summer school, and seven teachers were interviewed during the first week of September, 1959. These last mentioned respondents increased the rural-town group to 74, and the city group to 74. All respondents were asked 33 specific questions related to their first year to ascertain which factors had helped, or discouraged, or had not appreciably affected their teaching. After each interview the teacher was asked to mention the highlights of the first year and to cite any discouragements.

Related Studies

Sydney Katz secured data from ten provinces in Canada for his report in MacLean's magazine (4). The Canadian Home and School and Parent-Teacher Federation has shown continued interest (1). J. Katz reported teachers' opinions in Manitoba on the practical value of professional training (5). William's study reported on interviews with 50 superior teachers in the United States (11). The American Association of School Administrators issued a concise pamphlet in 1959 on teacher orientation (3). In 1953 Miller and Hodgson studied the problems of the beginning teacher in Alberta (7). The most comprehensive report on teachers, who had spent only a year in the classroom, came from the National Education Association (8). The Report of the Royal Commission on Education in Alberta was made public in December, 1959 (2). As of January, 1960, when this present study was completed, the Report of the Royal Commission on Education in Manitoba had not been published (6).

The Interview

The writer handed the respondents a questionnaire and explain-

ed that the answers were confidential and anonymous. The subject responded to the questionnaire while the writer recorded the answers. An item was marked "H" if the respondent judged he had been helped by this factor; "D" indicated a discouragement. If neither, the space was left blank. At the close of the interview the respondent was asked to mention the most pleasant experience during the year, and the sharpest discouragement. Care was taken to differentiate between a temporary disappointment and a genuine discouragement.

Findings

Marital Status and Age

About one teacher in six was married, as Table I shows. About a third of the respondents were men, and slightly more than half of the men were married. The respondents' ages are shown in Table II. Over half of the beginning teachers were 20 years of age, or less. One in four was in the 21 to 25 year group, and the remaining 16.6 per cent were older.

TABLE I

PERCENTAGE DISTRIBUTION OF RESPONDENTS SHOWING TYPE OF MARITAL STATUS AND SEX (N = 147)*

Type of School	Marital Status			
	Married		Unmarried	
	Male	Female	Male	Female
Rural-town (N = 74)	4.0	1.2	10.5	34.0
City (N = 73)*	8.1	1.5	9.4	30.7
Totals	14.8		84.6	
	Males = 32%		Females = 68%	

*One female respondent was divorced and was not included in this table.

Academic Training

In Table III the figures 0.6 and 0.7 represent one respondent and are not significant. One teacher in five held a degree, and three respondents out of four had grade twelve standing. Three persons

TABLE II

PERCENTAGE DISTRIBUTION OF RESPONDENTS SHOWING AGE, MARITAL STATUS AND SEX (N = 147)*

Age group, in years	Marital Status			
	Married		Single	
	% Male	% Female	% Male	% Female
18, or younger				1.4
19 to 20	1.3		16.7	37.5
21 to 25	2.5	0.8	1.2	21.4
26 to 30	4.2	1.3	1.7	4.7
31 to 39	3.5	0.6		
40 to 49	0.6			
Totals in per cent	12.1	2.7	19.6	65.0

*One female respondent was divorced and was not included in this table.

TABLE III

PERCENTAGE DISTRIBUTION OF RESPONDENTS SHOWING TYPE OF SCHOOL, ACADEMIC TRAINING AND SEX (N = 148)

Type of School	Academic Training									
	Less than full Grade 12		Grade 12		More than grade 12, but less than Bachelor's		Bachelor's degree		Master's degree	
	% M	% F	% M	% F	% M	% F	% M	% F	% M	% F
Rural-town (N=74	0.7	1.4	11.0	32.5	0.7	1.4	2.0			
City (N=74			8.1	22.5	0.7	0.7	8.2	9.5		0.6
Totals	2.1		74.1		3.5		19.7		0.6	

began teaching with less than grade twelve, and five respondents had training beyond grade twelve, but had not earned a degree. Teachers with higher qualifications were located in the cities. In the rural schools 2.0 per cent of the respondents had a degree, and in the cities the figure was 18.3 per cent.

TABLE IV

PERCENTAGE DISTRIBUTION OF RESPONDENTS SHOWING TYPE OF SCHOOL, PROFESSIONAL TRAINING AND SEX (N = 148)

Type of School	Professional Training							
	Less than 7½ months		7½ months to 10 months		14 to 27 months		B.Ed., or more	
	% M	% F	% M	% F	% M	% F	% M	% F
Rural-town (N=74)	1.4	2.8	6.9	29.6	6.3	2.0	0.7	
City (N=74)	4.1	8.1	2.1	15.1	6.7	4.2	4.0	6.0
Totals	16.4		53.7		19.2		10.7	

Professional Training

The heading for column 1 in Table IV indicates less than the typical "university year" of about seven and a half months. Column 2 includes two groups: teachers who had trained in a Teachers' College, and those who had spent a full year in a Faculty of Education. Of the 148 respondents seven out of ten had studied a year, or less, in professional schools, and almost a quarter of this number had spent less than seven and a half months learning to teach. About two persons out of ten had spent from two to three years as students in a professional school, and one out of ten had acquired a professional degree.

Did the pupils in the rural-town areas have their proper share of better trained teachers, those with more than a year of training? The facts indicate otherwise, except in column 1 where three times as many of the respondents with the least training were located in cities. The other three columns show that first-year teachers in the cities had better training than the respondents in the rural-town

areas. The most significant differences are seen in column 2 and 4. Twice as many teachers in the rural-town schools had one year of professional training, and almost all the respondents who had a degree were located in the cities.

Respondents' Judgments Compared with a Similar Group from the United States

The data in Tables V to VIII in the columns labelled "discouragements" are compared with the figures given in the National Education Study which stated that about 9.0 per cent of first-year teachers were discouraged (9). This figure was used with the χ^2-test based on the null hypothesis. It was assumed that one may except 9.0 per cent of the respondents in this present study to be discouraged. The probability at the 0.1 per cent level is used consistently to compare the rural-town and the city groups with the N.E.A. report already mentioned.

TABLE V

RESPONDENTS' JUDGMENTS ON TOTAL SCHOOL PLANT

Factors of School Plant	Rural-Town N=74		City N=74		Totals N=148	
	H*	D‡	H	D	H	D
Grounds	16	20	14	5	30	25
Buildings	24	16	26	7	50	23
Gymnasium	10	34	33	20	43	54
Teachers' room	11	16	34	3	45	19
Auditorium	11	30	35	18	46	48
Classroom	26	15	35	3	61	18
Classroom materials	30	25	37	11	67	36
Library	19	35	23	14	42	49
Add anything	12	13	17	6	29	19
Totals	159	—204	254	—87	413	—291
Algebraic totals		—45	+167		+122	

* Helpful

‡ Discouraging

The School Plant

Table V covers the total school plant. Teachers in the rural-town schools indicated marked disatisfaction with the lack of gymnasia, auditoria and libraries; and slight endorsation of the buildings, the classroom and classroom materials. The respondents from the

cities were not so critical about auditoria, gymnasia and libraries, but they claimed the school grounds were sometimes a discouragement. City teachers were encouraged mainly by buildings, teachers' rooms, the classroom, and the learning materials supplied.

The χ^2-test showed than on the basis of the null hypothesis there is a 0.1 per cent probability that the total might exceed 27.877. The actual figures are 399.57 for the rural-town respondents, and 57.30 for the city school systems. The school plant is judged drastically inadequate by first-year teachers in the rural-town schools, and quite inadequate by teachers in the city schools.

Factors Closely Related to Teaching

The principal, superintendent and supervisor, as shown in Table VI, were considered as important more often by city teachers who made 101 judgments compared with the rural-town teachers who recorded 87. City teachers also stated that these officials were more helpful. Meeting parents, the lack of learning materals, and worries about pupils discouraged rural-town teachers more than city teachers. Critical parents affected all first-year teachers to about the same extent. Keeping records discouraged city teachers more. Peers discouraged rural-town and city teachers about equally, but the beginning teachers in the city were more often encouraged by their peers.

The χ^2-test showed that on the basis of the null hypothesis the total might exceed 33. The figures actually were 71.57 for the rural-town respondents, and 44.43 for the first-year city teachers. More discouragements were shown than might be expected, particularly by the rural-town teachers.

Respondents' Judgments on Various Professional Factors

Table VII shows that first-year teachers in the rural-town schools made almost twice as many judgments on meeting peers socially, and that the discouragements were much higher than was indicated by the city respondents. Professional associations might be expected to elicit from 60 to 65 endorsements from both the rural-town and the city respondents. But, the figures show that only 18 respondents in the rural-town areas found their professional associations helpful and 11 were discouraged. Institutes and conventions were judged as more useful by the city teachers, but there does not appear to be definite support for these important areas of in-service training. When reading was considered, the favorable replies were few. Just 21.6 per cent found professional reading helpful, and two rural teachers stated general reading was a discouraging factor during their first year. The 86 D-responses represented a large pro-

portion who stated that they were discouraged with training that was specifically designed to help.

The χ^2-test showed that on the basis of the null hypothesis there is a 0.1 per cent probability that the total might exceed 24.322. The figures were 200.71 for the rural -town respondents and 214.85 for the city teachers. These figures would seen to show that the items listed in Table VII were markedly discouraging for the beginning teacher.

TABLE VI

RESPONDENTS' JUDGMENTS ON FACTORS CLOSELY RELATED TO CLASSROOM TEACHING

Factors related to Classroom Teaching	Rural-Town N=74		City N=74		Totals N=148	
	H*	D‡	H	D	H	D
Superintendent	44	10	9	1	53	11
Principal	26	3	66	2	92	5
Supervisor	3	1	21	2	24	3
Peers	26	8	67	6	93	14
Learning materials	23	16	34	8	57	24
Reaction to pupils	52	21	59	4	111	25
Meeting parents	41	15	36	1	77	16
Critical parents	5	15	6	14	11	29
Records	8	4	5	15	13	19
Other routines	0	4	3	3	3	7
Add anything	1	3	3	0	4	3
Totals	229	—100	309	—56	538	—156
Algebraic totals	+129		+253		+382	

* Helpful

‡ Discouraging

Selected Personal Items

First-year teachers in the rural-town schools were definitely more discouraged, as Table VIII shows, than the first-year teachers in the city systems. Six factors; lodgings, leisure, summer freedom, opportunities for hobbies, the few young people in rural areas, and the community associations, gave 82 D-responses from the rural-town group compared with 18 D-responses from the city teachers. The other two factors, salary and status, were also more satisfactory for the city respondents.

Table VII
RESPONDENTS' JUDGMENTS ON VARIOUS PROFESSIONAL FACTORS

Professional Factors	Rural-Town N=74		City N=74		Totals N= 148	
	H*	D‡	H	D	H	D
Meeting peers socially	16	6	11	1	27	7
Professional associations	18	11	22	0	40	11
Institutes	29	10	27	2	56	12
Conventions	41	10	26	7	67	17
Professional reading	16	0	16	0	32	0
General reading	16	2	21	0	37	2
Teacher training	54	43	51	43	105	86
Totals	190	—82	174	—53	364	—135
Algebraic totals	+108		+121		+229	

* Helpful
‡ Discouraging

Table VIII
RESPONDENTS' JUDGMENTS ON SELECTED PERSONAL ITEMS

Item	Rural-Town N=74		City N=74		Totals N= 148	
	H*	D‡	H	D	H	D
Lodgings	43	13	19	1	62	14
Salary	37	7	31	3	68	10
Status	26	5	16	1	42	6
Too few young people	8	13	2	1	10	14
Leisure	12	17	1	2	13	19
Reactions to community	17	4	2	0	19	4
Hobby opportunities	17	23	36	13	53	36
Summer freedom	5	12	1	1	6	13
Totals	165	—94	108	—22	273	—116
Algebraic totals	+71		+86		+157	

* Helpful
‡ Discouraging

The χ^2-test on the basis of the null hypothesis showed that there was a 0.1 per cent probability that the total might exceed 26.125. The figures were 66.57 for the rural-town group and 38.57 for the city respondents to indicate that there were more discouragements than might normally be expected when a comparison is made with the N.E.A. study.

Synoptic Judgments on the Total First-year's Work

First-year Highlights

Work satisfaction may not exist as an independent variable, but as a cluster of factors. This assumption was basic to the second part of the questionnaire when the respondent was asked to mention the richest and warmest experience felt during the first year's work.

Five persons did not report anything outstanding, but the other 143 were eager to give their most rewarding satisfaction. Sixty-five teachers, or 44 per cent, said teaching was their reward. They liked to teach. This is a high proportion when compared with other vocations where only 28 per cent are satisfied (10). Thirty teachers mentioned the satisfactions of seeing children learn and mature. Another 17 respondents cited warm and friendly pupil attitudes, along with a liking for children and young people, as the happiest experience during their first year. Eleven teachers used enthusiastic tones to describe their principal's help. About 10 teachers supported each item in this cluster: the fun in physical education, encouragement from parents, peer acceptance, and professional growth during the noviate year. Four respondents claimed the inspector-superintendent had prevented them from failure through his encouragement and counsel.

Serious Discouragements

After the respondent had given the highlight of the year he was asked to state the major discouragement. The judgments were carefully analysed to probe if the annoyance had been temporary.

Twenty-nine respondents, or 19 per cent, said they had no discouragements during their first year. Teachers with more than a year of professional training showed fewer discouragements. The major problem listed for 23 teachers was discipline, and critical parents discouraged another 12 teachers. The lack of a gymnasium was a major disappointment for nine respondents, while seven teachers listed their major problem as their inability to apply what they had learned at teacher training institutions. Six persons said routines took the sparkle off teaching, and rural isolation dampened the enthusiasm of five teachers. Each of the following discouraged three teachers: not teaching in a larger unit of school administration, parents who are indifferent to the child's progress, the teacher's own

lack of knowledge of materials, content and methods, aloof and unsympathetic peers, and children who seemed unduly slow to learn.

Sober thought convinces one that hearts and intellects come in various sizes, and that certain discouragements are indeed difficult for a first-year teacher. Carping parents, no gymnasium, no auditorium, no library, too many grades to teach, no young people for fun out-of-hours, and peer ostracism are factors which would discourage anyone.

Conclusions

The factors listed in the first half of the questionnaire, when checked with the χ^2-test using the null hypothesis, and compared with a similar group of first-year teachers in the United States, showed that the beginning teacher in the prairie provinces judged the school plant inadequate, especially in the rural areas. Teacher training, supervision, in-service training, and professional associations were not endorsed by a third of the respondents. Less discouraging were the other factors listed, with most shortages noted in the rural-town schools.

The last half of the questionnaire covered highlights and discouragements. Discipline and critical parents were a serious problem. The first-year teacher also claimed that it was difficult to apply what had previously been taught in the teacher training institutions. On the brighter side 143 respondents mentioned rich and rewarding experiences, and 44 per cent stated that they liked to teach, and found that this gave them their greatest satisfaction. As stated earlier this is a high degree of satisfaction when compared with a large cluster of other occupations.

Acknowledgements

The University of Alberta assisted with a grant from the General Research Fund. Sincere thanks are offered also to: R. W. Lightly, Chief Inspector of Schools, Government of Manitoba; Dr. J. W. Tait, Director of Teacher Training, A. M. Derby, Registrar, and L. H. Bergstrom, Chief Superintendent of Schools, Government of Saskatchewan; and Dr. T. C. Byrne, Chief Superintendent of Schools, Government of Alberta: Inspectors Dunfield, Floyde, George, Miller, Patterson, and Sadler; Superintendents Bjarnason, Brennan, Cannon, How, Hunt, Ingram, Leach, Lorimer, McFadyen, Peacock, Penny, Thacker, Van Tighem, Warren and Wyatt; and the many principals and their staff.

REFERENCES

1. The Alberta Home and School Association, "Facts About Education's Number One Problem" (Special Conference Report). The Association, Calgary, Alberta, Canada, 134-8 Ave., East, December 3, 1955, pp. 8.

2. Alberta, *Report of the Royal Commission on Education,* Edmonton, Alberta, Canada, Government of Alberta, The Queen's Printer, 1959, (Majority report 511 pp. and minority report 174 pp.)
3. The American Association of School Administrators, *Off to a Good Start; Teacher Orientation,* Washington, D.C., The Association, 1959, pp. 15.
4. Katz, Sydney. "The Crisis in Education." *MacLean's Magazine,* March 1, 1953, p. 7.
5. Katz, J. "Evaluation by Questionnaire of Student Opinion of the Teacher Training Program insofar as it is of Practical Value to Them in the Field." (Mimeographed) Winnipeg, Canada, University of Manitoba, 1953, pp. 33.
6. Manitoba, *Report of the Royal Commission on Education,* Winnipeg, Canada, Government of Manitoba, The Queen's Printer, 1960. (This report was not published when the present study was completed, January, 1960.)
7. Miller, Velma, and Hodgson, W. Eric. "A Study of Factors Which Determine Success and Failure Among Beginning Teachers in the Province of Alberta." (Mimeographed) Edmonton, Alberta, Canada, University of Alberta, 1953.
8. National Education Association, Research Division, "First Year Teachers." *Research Bulletin,* XXXIV, 1, Feb. 1956, pp. 1-47.
9. Ibid. p. 39.
10. Robinson, H. Alan, "Job Satisfaction Researches of 1952." *Personnel and Guidance Journal,* September, 1953, p. 24.
11. Williams, Meta F. "To Attract and Hold Good Teachers." *The School Executive,* 79-1, September 1959, pp. 66-68.

LEADERSHIP EXPECTATIONS OF THE NEWFOUNDLAND REGIONAL AND CENTRAL HIGH SCHOOL PRINCIPAL

PHILIP J. WARREN
and
A. W. REEVES
Faculty of Education

The effectiveness of a school program is greatly influenced by the quality of its leadership. The leader's skill in human relations, his ability to marshall every possible resource and inspiration through constant and careful planning, and his ability to relate effort to purpose are factors of major importance in determining the extent to which the goals of the school are attained. School administrators must display in increasing measure these leadership abilities in maintaining the present educational level of the school program and in guiding its further development.

Examination of the literature reveals that many studies have determined factors other than personal characteristics which stimulate, condition, or direct leadership behavior. Some studies indicate that there is a set of socially defined behavior expectations associated with the person occupying a leadership position. This set contains the expectations of all those associated with the position, and attempts to describe what others feel the leader ought to do. Chase contends that these expectations, coupled with the leader's own perception of what he should do, help determine the leader's role. (1)

The Problem

This study was an attempt to determine certain leadership expectations of the principalship in Newfoundland's regional and central high schools as seen by principals themselves and by teaching staffs.* The primary purpose was not to evaluate the effectiveness of the principal's leadership behavior, but rather to ascertain the relationship between principal's beliefs and those of teachers concerning how the principal should behave as an educational leader.

There were three sub-problems investigated in this study. The first two were concerned with measuring the degree of agreement within each sample group. This agreement was termed intra-positional consensus. The third problem was to measure the degree of agreement between the two groups and was labelled inter-positional consensus. A basic assumption is selecting these sub-

*The central high school offers instruction in grades VII through high school, whereas the regional high school is limited to high school grades, often including grade IX.

problems as areas of investigation was that, in any school, the extent to which the principal can provide effective leadership is greatly influenced by the degree of intrapositional and interpositional consensus concerning his role.

Background of the Problem

Since 1952 Newfoundland has attempted to achieve a greater degree of equality of educational opportunity through centralization of educational facilities. At present there are twenty centralized schools in the province, ten regional and ten central. Predictions are that the province will have some fifty of these schools within the next ten years. However, the problems associated with implementing this policy in a province with a denominational school system, difficult terrain, a widely scattered population, relatively weak school boards, and a relative lack of wealth demand competent and expert leadership. The school principal must play a primary role in providing this leadership. There is a growing need to clarify his responsibilities in this new form of adminstrative organization.

Design and Procedure

An attempt was made to relate this study to a framework proposed by Morris and Seeman in 1950 (3). This framework or paradigm for the study of leadership suggests that leader behavior can be described in terms of *what* the leader does and *how* he does it. The leader's behavior can be described by the leader himself, by members of his staff, or by observers; by using an interview, a behavior check list, direct observations, rating scales, or situation tests. In the present study principals and teachers were asked to describe ideal principal leader behavior by stating their expectations and perceptions of *what* the principal should do and *how* he should do it.

In constructing an instrument to describe the principal's responsibilities, the investigator chose three main areas of interaction, namely: —

1. The principal's actions when working with pupils.
2. The principal's actions when working with teachers as individuals and groups.
3. The principal's actions when working with community members.

From an original list of eighty items, thirty were selected.* Each item was a statement of a particular responsibility or form of behavior which the principal might adopt; it was a statement of

*Such instruments as the Principal's Behavior Check List, developed at the University of Florida, and The Principal's Profile, from the University of Georgia, provide many suggestions.

what he might do. For each item respondents were asked to react in one of the following ways: Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree.

Respondents were also requested to complete the Leader Behavior Description Questionnaire. This instrument, developed at Ohio State University, resulted from extensive work of an interdisciplinary group, and was concerned primarily with *how* a leader should behave in working with his staff. Fifteen items of this instrument measured the leadership dimensions of Consideration and fifteen measured Initiating Structure. Halpin states that:

> Initiating structure refers to the leader's behavior in delineating the relationship between himself and members of the work-group, and in endeavoring to establish well-defined patterns of organization, channels of communication, and methods of procedure. Consideration refers to behavior indicative of friendship, mutual trust, respect, and warmth, in the relationship between the leader and members of the staff (2, p. 4).

Respondents were asked to check one of; Always, Often, Occasionally, Seldom, and Never, in response to each item.

Following a pilot study, the final draft of the instrument was printed and forwarded to twenty principals and one hundred nineteen teachers. For purposes of analysis the instrument also sought census-type factual data, such as sex, professional training, experience, and size of school system.

Because this analysis was primarily an itemized one, it was deemed advisable to use I.B.M. equipment to tabulate and analyze results. The variance was used as a measure of intraposition consensus for each item, a relatively low numerical value indicating a high degree of consensus, whereas a relatively high variance score corresponded with a low degree of consensus. The F-ratio of variance, the t-test, and chi-square were statistical measures used to determine significant differences. A Cochran and Cox test was used to retest the significance of the differences obtained through use of the t-test.

Summary of the Findings

Intrapositional Consensus

An attempt was made here to examine the consensus within each of the two samples of principles and teachers on the selection of expectation items describing the leadership role of the high school principal. A basic general hypothesis was that variance scores would permit placing items on a continuum of consensus thereby establishing a trend from items with the greatest degree of consensus ("low" variance scores) to those with the least consensus ("high" variance scores).

Included in the items which yielded a high degree of consensus among principals were those describing the principal's responsibility

in counselling students, in evaluating the quality of teaching and learning, and in co-ordinating teacher efforts. There was also a high degree of consensus that the principal should be friendly, approachable, and understanding. There was a high degree of conflict on whether the principal should spend his non-teaching time primarily in classroom supervision; on whether he should provide for supervision of extra curricular activities, help supervisors rate teachers, treat staff members as his equals, and serve only as a last resort in dealing with serious discipline problems.

Teachers agreed that the principal should defend the school against unwarranted criticism, co-ordinate activities within the system, and assign extra curricular activities equally among the staff, with due consideration to such things as teaching load and interest. They also agreed that he should always be understanding and willing to help. Included in the items with a low degree of consensus among teachers were those suggesting a principal's responsibility in helping supervisors rate teachers, providing leadership in church activities, supervising teachers, treating staff members as his equals, and looking out for the personal welfare of individual teachers.

A second hypothesis was that there would be more consensus within each group on items describing *what* the principal should do than on items describing *how* he should behave in fulfilling his role. There was support for this hypothesis from the teacher sample only. There was no support for the hypothesis that there would be a significant relationship between the expectations of teachers, and such factors as their professional training, the size of the school within which they operated, and their total teaching experience.

The final hypothesis tested in this section of the study on intraposition consensus was that there would be a positive relationship between corresponding variance scores obtained from the two samples. Rank order correlations were calculated for corresponding variance scores for each of five groups of items on the questionnaire: those describing the principal's responsibility in working with each of pupils, teachers, and community, and those describing the leadership dimensions of "Consideration" and "Initiating Structure". A correlation significant at the .01 level of confidence was obtained for the groups of items "working with teachers" and "Consideration," as well as for the questionnaire as a whole. These significant correlations would seem to indicate that there was a similar degree of variability between teachers and principals, in these areas.

Interpositional Consensus

This section of the investigation attempted to determine areas of

agreement and disagreement between principals and teachers in defining the leadership role of the high school principal. The basic general hypothesis tested was that there would be differing degrees of consensus between principals and teachers on the expectation items used. To determine items on which response distributions for principals differed significantly from those of teachers, a t-test of means and an F-test of variances were used. The .05 level of confidence was adopted as indicating a significant difference.

There was comparative agreement between principals and teachers on thirty-eight of the sixty items used in the instrument. However, included in this number were items which possessed a low degree of consensus within each sample group, but on which there was no significant difference between the distributions to indicate this lack of intraposition consensus. Both principals and teachers saw the principal as (1) involving students in the formation of school policy, (2) promoting good public relations through speeches on educational topics to lay organizations, (3) supporting a teacher's action when teacher and principal were face to face with pupils and/or parents, (4) assigning extra curricular activities equally to teachers, with due consideration to such things as interest, health, and teaching load, and (5) defending the school and its personnel against unwarranted criticism. The successful principal was seen by both samples as one who (1) always made his attitudes clear to the staff, (2) seldom acted without consulting the staff, (3) was always easy to understand, (4) often or always let staff members know what was expected of them, and (5) always made his staff members feel at ease when talking with them.

Included in the eleven items on which there were significant differences between corresponding mean and variance scores of the responses of principals and teachers were statements that the principal should (1) encourage teachers to support worthwhile community projects, (2) retain the responsibility for making the final decision on important school policy, (3) urge that teachers attend Home and School meetings, (4) evaluate the quality of teaching and learning in the classroom to aid improvement, and (5) speak in an authoritative manner. A larger percentage of principals than teachers strongly agreed with the suggestion that the principal should encourage teachers and pupils to take part in community affairs. This was also true of items dealing with teacher evaluation, and the principal's responsibility for making final decisions on school policy. Principals were equally divided between Strongly Agree and Agree on whether they should urge teachers to attend Home and School meetings. On the same item a number of teachers were undecided, while others disagreed, or strongly disagreed. It was interesting to note that whereas principals tended to suggest

that they should seldom or never speak in an authoritative manner, teachers responses ranged from Always to Never.

A second hypothesis concerning interposition consensus predicted that on the items on which there was a difference between the variability of principal and teacher responses, the variability among principals would be less than among teachers. This prediction was based on the assumptions that principals had had more opportunity than teachers to clarify their thinking concerning their own leadership role, and that in many cases their professional training had been relatively homogeneous. Of the seventeen items on which there was significant difference between variance scores, sixteen showed less variability among principals than among teachers.

Two final hypotheses were concerned with the leadership dimensions of "Consideration" and "Initiating Structure". It was hypothesized that: (a) the expectations of teachers on the "Consideration" dimension would never be lower than those of principals, and (b) there would be no difference between the expectations of teachers and principals on the items describing the "Initiating Structure" dimension.* No support was found for the first hypothesis, but the prediction for the second was sustained. Principals and teachers agreed on the extent to which the principal should be considerate and take the lead in initiating action as he fulfills his responsibilities.

Conclusions and Implications

This study was focused on the position occupied by the principal of the Newfoundland regional and central high school. It shows that the definition of the principal's role by principals and teachers includes many examples of low intrapositional and interpositional consensus, especially in expectations relating to behaviors which might affect the personal life of the teacher, and behaviors which describe the principal's supervisory role. However, there was a high degree of consensus on expectations describing the principal's human relations role. There was also a feeling among a considerable number of respondents that the successful principal was one who could, as Whyte expresses it, weave authority and participation together effectively (4).

Included in the implications of this study are:

1. There are areas of Newfoundland which might well benefit from the establishment of local principals' organizations including all principals of the area, or the establishment of a secondary school organization to discuss problems such as those investigated in this study.

*These hypotheses were findings of part of a U.S. study using the Leader Behavior Description Questionnaire.

2. Conflict on such issues as the principal's supervisory role indicates that further training, perhaps through an annual principal's short course to include principals from all over the province, should be instituted.
3. An implication concerning pre-service training is the apparent necessity for the principal to obtain a thorough grounding in the human relations aspects of school administration.
4. It might be stated that the Newfoundland School Act should provide a general framework within which the school principal should operate. Within this framework school boards could establish their own local regulations concerning the role of the principal.

Finally it might be concluded that principals and teachers would benefit from frank discussions of their expectations concerning the principal's leadership role. Such discussions would automatically involve discussions of the roles of others within the system. The results would be the development of better principal-staff relations and more intelligent administrative behavior.

REFERENCES

1. Chase, F. S. *Professional Leadership and Teacher Morale.* Administrator's Notebook, Vol. 1, No. 8 (March, 1953).
2. Halpin, Andrew W. *The Leadership Behavior of School Superintendents.* SCDS Series, Columbus, Ohio: Ohio State University, 1956.
3. Morris, Richard T., and Melvin Seeman. "The Problem of Leadership: An Interdisciplinary Approach," *American Journal of Sociology,* Vol. 56, No. 2 (September, 1950), pp, 149-155.
4. Whyte, William F., *Leadership and Group Participation,* Bulletin No. 24, Ithaca N.Y.; New York State School of Industrial and Labor Relations, Cornell University, 1953.

THE DIFFFUSION OF EDUCATIONAL SOCIOLOGY TO WESTERN CANADA THROUGH TEXTBOOKS AND PERIODICALS

B. Y. Card
University of Alberta
Edmonton, Alberta

In the historically young area of Western Canadian culture diffusion — the borrowing of cultural elements from other cultures — has been a much more important process in the change and development of the area's culture than has Western Canadian invention. Thus, one of the most important factors in understanding past development and in predicting future change in the "West" is accurate knowledge of the rate and extent of diffusion, especially in such key institutional fields as the family, the economy, government and education. The present study examines diffusion to Western Canada of two comparatively minor elements, educational sociology textbooks and periodicals. However, this examination throws light on the past and proximate future development of educational sociology and on the nature of educational change in Western Canada. Further, the study is not without relevance for other parts of the world, where the diffusion of educational sociology has been and is going on (1).

Theoretical Orientation. For present purposes educational sociology — a branch of sociology, a science, a discipline, a foundation field of education — is conceived as a comparatively complex social invention involving a synthesis of cultural elements — personnel, ideologies and a variety of interaction patterns. From this perspective it is possible to combine operationally the as yet unintegrated diffusion theories of anthropologists such as Linton (2), sociologists Chapin (3) and McVoy (4), and educators Mort and Cornell (5), and Barrington (6). From these theories it is hypothesized as follows:

(1) That some diffusion of textbooks and periodicals associated with educational sociology has taken place between the similar and geographically contiguous cultures of the United States and Western Canada;

(2) That the diffusion is cyclical, involving stages of presentation, acceptance, and integration, the last term referring to the possession of the diffused elements, textbooks and periodicals, by a socially approved category in Western Canada, in this case librarians of major education libraries;

(3) That there are definite periods of expansion and contraction in the diffusion of textbooks and periodicals;

(4) That there is diffusion by degrees from centres within Western Canada to the periphery;

(5) That diffusion is modified by density of population, urbanization, transportation and communication, wealth, and education.

From earlier studies of American educational sociology, particularly one by the present writer (7), hypotheses about the diffusion of textbooks and periodicals in relation to the diffusion of educational sociology as a whole may be adduced. One is that the extent to which educational sociology as a whole is diffused depends on the number and combination of elements presented, accepted and integrated in Western Canada. Another is that the textbook, the most readily diffused part of educational sociology in the United States, is the most widely and completely diffused element of educational sociology in the Canadian West. Space does not permit the formulation of further hypotheses from existing knowledge of educational sociology in the United States and elsewhere or from knowledge of the socio-cultural factors in Western Canada likely to affect diffusion.

Procedure. This study was begun in 1950 when the writer visited all university, normal school (now teacher college), department of education, and provincial teacher association libraries in the Prairie Provinces and checked their holdings in sociology and educational sociology. At this time it was ascertained that only institutions engaged in teacher education had any appreciable holdings in the sociological sciences. In the spring of 1960 a list was prepared containing (1) 67 titles of educational sociology textbooks in English, 65 American and two British, which have been published since 1912; (2) 10 periodicals identified by Cook (8), Lawrence (9), and Brim (10) as containing articles on or relevant to educational sociology; (3) a list, compiled by the writer, of ten recent books on social research (11). The list was sent to the librarians of Western Canada's four provincial universities, two branch universities, three teachers colleges, and one private college offering teacher education in affiliation with a provincial university. Since each of the ten librarians cooperated, the present study is complete for the diffusion of textbooks and periodicals. A comparison of the writer's 1950 data with those from librarians in 1960 showed a high degree of reliability in the two lists for equivalent periods of time. Although no inquiry was made regarding library discarding practices, comparison of 1950 and 1960 data showed little evidence of discarded textbooks. (Only eleven textbooks discovered in 1950 were not checked on the 1960 lists returned from the Prairie Provinces.

These were added to the 1960 data.) It can be assumed that the 1960 data are a valid index of the educational sociology textbooks and periodicals which have become part of Western Canadian culutre through acquisition and conservation by libraries.

Findings — Textbook Diffusion. The major findings related to textbook diffusion are summarized in Tables I and II. In the two decades ending in 1929 diffusion to British Columbia libraries was greatest. Thereafter it has been greatest in Alberta. By comparison, diffusion has been slow in Saskatchewan and Manitoba, although there is an appreciable increase in both provinces in the

TABLE I

DIFFUSION OF EDUCATIONAL SOCIOLOGY TEXTBOOKS TO WESTERN CANADA LIBRARIES BY PROVINCE AND BY DECADE

Province	Decade of Textbook Publication					
	1910-1919	1920-1929	1930-1939	1940-1949	1950-1959	Totals
British Columbia N=2						
Possible Diffusion[a]	14	34	32	14	40	134
Actual Diffusion	7	14	9	8	23	61
Proportion Diffused %	50	41	28	57	58	46
Alberta N=2						
Possible Diffusion	14	34	32	14	40	134
Actual Diffusion	2	10	15	11	36	74
Proportion Diffused %	14	29	47	79	90	55
Saskatchewan N=3						
Possible Diffusion	21	51	48	21	60	201
Actual Diffusion	3	7	2	5	15	32
Proportion Diffused %	14	14	4	24	25	16
Manitoba N=3						
Possible Diffusion	21	51	48	21	60	201
Actual Diffusion	2	8	2	6	21	39
Proportion Diffused %	10	16	4	29	35	19
Western Canada N=10						
Possible Diffusion	70	170	160	70	200	670
Actual Diffusion	14	39	28	30	95	206
Proportion Diffused %	20	23	18	43	48	31

[a]Possible diffusion is the number of institutions reporting multiplied by the number of textbooks published per decade.

last two decades. For Western Canada as a whole, diffusion was fairly constant until the 1940's, with approximately one-fifth of textbooks published in educational sociology finding their way to the area's education libraries. In the last two decades the proportion has increased from two-fifths to one-half. With practically no evidence of books having been discarded, it can be assumed that integration of educational sociology textbooks in Western Canadian

TABLE II

DIFFUSION OF EDUCATIONAL SOCIOLOGY TEXTBOOKS TO WESTERN CANADA LIBRARIES BY DECADES AND BY INSTITUTIONS

	Decade of Textbook Publication					
	1910-1919	1920-1929	1930-1939	1940-1949	1950-1959	Totals 1910-1959
Universities N=4						
Possible Diffusion	28	68	64	28	80	268
Actual Diffusion	8	23	21	19	61	132
Proportion Diffused %	29	34	33	68	76	49
Branch Universities N=2						
Possible Diffusion	14	34	32	14	40	134
Actual Diffusion	3	6	4	6	22	41
Proportion Diffused %	21	18	12	43	55	31
Teachers Colleges N=3						
Possible Diffusion	21	51	48	21	60	201
Actual Diffusion	3	8	2	2	4	19
Proportion Diffused %	14	16	4	10	7	9
Private Affiliated Colleges N=1						
Possible Diffusion	7	17	16	7	20	67
Actual Diffusion	0	2	1	3	8	14
Proportion Diffused %	0	12	6	43	40	21
All Institutions N=10						
Possible Diffusion	70	170	160	70	200	670
Actual Diffusion	14	39	28	30	95	206
Proportion Diffused %	20	23	18	43	48	31

culture has taken place since the books were first published, and that their rate of integration has increased in the past two decades.

When diffusion is examined by institutional type it is clearly evident that diffusion is greatest in universities, least in teacher colleges. Further, diffusion has increased in universities, branch universities and the private college over the past two decades, but decreased in teacher colleges. In a half-century of diffusion universities have acquired half the books published, branch universities three-tenths, the private college a fifth, and teacher colleges an eleventh. These findings indicate a diffusion gradient by institutional type as well as by province.

Periodical diffusion. A periodical may be said to be "accepted" when it is first acquired. If it is discontinued, it is evident that the periodical has not been fully integrated, even though back volumes are retained by the library. Thus for periodicals, though not for textbooks, it is possible to refer to acceptance as well as integration in Western Canadian culture.

Data related to periodical holdings are found in Tables III and IV. In Table III the rate of acceptance is computed for each decade, based on the number of first acquisitions compared to the possible acquisitions in terms of the number of institutions and the number of periodicals published in a given decade. The acceptance rate was highest before 1920 when only three periodicals, which have

TABLE III

WESTERN CANADIAN ACQUISITIONS AND DISCONTINUANCES BY DECADES OF TEN PERIODICALS IDENTIFIED WITH EDUCATIONAL SOCIOLOGY

	Before 1920	1920-1929	1930-1939	1940-1949	1950-1959
Possible Acquisitions for 10 institutions	30	50	100	100	100
First Acquisitions	12	6	17	8	18
Acceptance Rate %	40	12	17	8	18
Discontinuances	0	0	2	2	5
Net Cumulative Retention	12	18	33	39	52
Integration Ratio %	40	36	33	39	52

TABLE IV

WESTERN CANADA LIBRARY ACQUISITIONS AND DISCONTINUANCES BY INSTITUTIONS OF TEN PERIODICALS IDENTIFIED WITH EDUCATIONAL SOCIOLOGY

	Universities	Branch Universities	Teacher Colleges	Private Affiliated College	Totals
Number of Institutions by 1959 Classification	4	2	3	1	10
Possible Periodical Acquisitions	40	20	30	10	100
Acquisitions	36	18	3	5	62[a]
Acceptance Ratio %	90	90	10	50	62
Discontinuances	1	4	1	2	8
Net Retention	35	14	2	3	54
Integration Ratio %	87	70	7	30	54

[a]Includes one periodical reported as taken "many years", which was not classifiable in Table III.

since been identified with educational sociology, were available. Although more periodicals were accepted in the 1930's and 1950's, the acceptance rate is less than half that prior to 1920, a finding which may reflect the influence of a number of factors — the changing status of educational sociology in the United States,

changing interests in Western Canadian education, or greater competition from an increasing number of education periodicals. When discontinued periodicals are allowed for, the net library retention may be determined, from which a ratio of integration may be computed with reference to the possible number of periodicals available in the field of educational sociology. According to this measure, integration was at the 40 percent level prior to 1920, the 33 percent level in the 1930's, and at 54 percent in the 1950's.

As with textbooks, there is a marked difference in periodical diffusion according to type of institution. In universities the integration ratio is 87 percent, in university branches, 70 percent. For the private college it is 30 percent, for the teacher colleges, 7 percent. Each of the three teacher colleges has at one time acquired a periodical associated with educational sociology, but only two have retained its subscription to the present. The west-to-east descending gradient of diffusion of periodicals is similar to that for textbooks. In terms of acceptance of periodicals, that is, acquisition without regard to discontinuance, British Columbia has an acceptance ratio of 100 percent, Alberta 90 percent, Sackatchewan 37 percent, Manitoba 43 percent.

In addition to these generalized findings, specific mention should be made of the diffusion of the *Journal of Educational Sociology*, the only periodical among the ten considered in this article which has been the official and unofficial voice of educational sociology since the journal's founding in 1927. It is noteworthy that only five institutions have at any time acquired the journal, and that only three had retained their subscription in the spring of 1960. The area's only complete holding of this periodical is at the University of British Columbia, though the University of Alberta, Edmonton, acquired most of the back volumes in the 1950's. Diffusion of educational sociology through the discipline's major organ has therefore been on a very limited scale in Western Canada.

Since research is the life-blood of any science, it is of some import to know what library tools exist for educational sociology's research in Western Canada. For the ten selected books published between 1942 and 1959, the proportion to British Columbia is 55 percent, Alberta 70 percent, Saskatchewan 20 percent, Manitoba 40 percent. By institution type the proportions are: universities 70 percent, branch universities 40 percent, the private college 20 percent, and teacher colleges, none.

Conclusions: With regard to the hypotheses presented earlier, the following concluding statements may be made:

(1) Diffusion of educational sociology textbooks and periodicals has taken place to Western Canada from the time these cultural

elements first appeared in the United States and later in Great Britain.

(2) Little evidence of the cyclical nature of diffusion appears in this study. There is some indication that periodicals are accepted for a time and that their full integration depends on a continuing subscription. Both textbooks and periodicals may be said to be integrated to the extent they are recognized holdings in Western Canadian education libraries. Further study of the actual diffusion process of textbooks and periodicals is needed to disclose in detail the interaction in the stages of presentation, acceptance and integration.

(3) There have been definite periods for expansion and contraction in diffusion in Western Canada. For the area as a whole the 1930's were a period of contraction, the 1950's a period of expansion in both textbook and periodical diffusion.

(4) There is no direct evidence in this study to show diffusion from centres, particularly universities, to what might be termed institutions on the periphery. The higher rate of diffusion to branch universities and the affiliated private college suggests some diffusion from universities to these types of educational institutions. However, this diffusion does not appear to be related to any geographical periphery in the Canadian West.

(5) There does appear to be a relationship between diffusion and such factors as population density, urbanization, transportation and communication, wealth, and education, though not always is the relationship clearly defined. In the cases of British Columbia and Alberta, the amount of diffusion to universities and branch universities may be associated with these factors. The diffusion of educational sociology textbooks and periodicals in Manitoba, however, shows a comparatively high amount at the university, a moderate amount in the private college in a predominantly rural area, and a small amount in the teachers college located in the same metropolitan area as the university. On the other hand, in Saskatchewan, university and teacher colleges are in the same or similar urban environments, but the amount of diffusion is different in the two types of institutions. Wealth and education, translated into universities with greater resources and longer and more diversified academic programs, appear to be clearly related to the diffusion of educational sociology textbooks and periodicals. Population density, urbanization, transportation and communication appear related to the diffusion of these two elements to Western Canada as a whole much more than to diffusion to provinces or to teacher colleges. Knowledge of specific provincial and

institutional factors is needed to explain the differential diffusion in Western Canada.

With reference to educational sociology as a social invention it can be stated that its diffusion to Western Canada, in terms of textbooks and periodicals, is at the 50 percent level for the decade ending in 1959, the highest level of any of the five decades. This diffusion is not uniform, however. There are important diffusion gradients from west to east among the provinces and from the universities to teacher colleges among the different types of institutions preparing personnel for professional education. However, the findings of this study show conclusively there has been educational sociology in Western Canada as textbooks and periodicals almost from the time the discipline was first invented in the United States around 1910. Since this is so, statements to the effect that Western Canada lacked an educational sociology, made in the 1936 doctoral study of Black (12), or by a leading Western Canadian educator to the writer in 1950 (13), are not completely accurate. While courses, professors or research clearly identified with educational sociology may not have been apparent to Western Canadians during the first half of this century, it is amply shown in the present study that educational sociology in the form of publications, of distant leadership for reading publics, has been a part of Western Canadian culture.

This estabilshed fact of Western Canadian education, however, by no means closes the door on further challenging investigations of educational sociology's diffusion to the area, and ultimately of the meaning of past and present diffusion for Western Canadian education and culture. Needed are studies of the uses made of these books and periodicals and of their relationship to the Alberta reading course of 1918-21 prescribing books on educational sociology (14), to the Alberta Department of Education Summer Session courses on "Social Foundations of Education" in the 1930's (15), to the indigenously invented "Social Foundations of Education" course appearing in Saskatchewan Teacher Colleges in 1947 (16), to the late Dr. G. M. Weir's 1945 Summer School course, "Educational Sociology," at the University of British Columbia (17), and to other courses. Study is also needed of the changing contacts with educational sociology of Western Canadian social scientists and educators in the past half century, as they studied or taught in United States, Great Britain or different parts of Canada. Further, an examination is needed of research in Western Canada to disclose changes in the choice of problems studied and of reference materials cited in setting up studies. Then there are the problems of changing the structure of education, the evolving relationships between Western

Canadian education and society, between education and the other academic fields, particularly the social sciences, and the effect of these on the diffusion of educational sociology to the area, or the invention of its functional equivalent. Finally, do studies such as the present one have any effect on diffusion? These matters remain to be reported in other studies.

BIOGRAPHICAL NOTES AND SOURCES

1. Roucek, Joseph S. *The Development of Educational Sociology—History and Trends in America and Abroad.* Bridgeport, Connecticut: 1956. The Author. pp. 60-69. Also, Jean Floud and A. H. Halsty, "The Sociology of Education," *Current Sociology,* VII, No| 3, 1958, pp. 165-193.
2. Linton, Ralph, *The Study of Man* (Student's edition). New York: D. Appleton-Century Co., 1936, pp. 304-366.
3. Chapin, F. S. *Cultural Change.* New York: Century Co., 1928. pp. 226-229.
4. McVoy, Edgar C. "Patterns of Diffusion in the United States," *American Sociological Review,* V (April, 1940), pp. 219-227.
5. Mort, Paul R. and Francis G. Cornell. *American Schools in Transition — How Schools Adapt Their Practices to Changing Needs.* New York: Bureau of Publications, Teachers College, Columbia University, 1941. See pp. 347-349 for a brief comment on diffusion of educational practices through textbooks and periodicals.
6. Barrington, Thomas M. *The Introduction of Selected Educational Practices into Teachers Colleges and Their Laboratory Schools.* Institute of Administrative Research, Teachers College, Columbia University, Study No. 8. New York: Bureau of Publications, Teachers College, Columbia University, 1953.
7. Card, Brigham Young, "American Educational Sociology from 1890 to 1950 — A Sociological Analysis." Unpublished Ph.D. Dissertation, School of Education, Stanford University, 1959, especially the analyses of textbooks and periodicals as authors, ideologies, and interaction patterns, pp. 122-130, and 381-402.
8. Cook, Lloyd Allen, "Educational Sociology," *Encyclopedia of Educational Research.* Rev. ed., 1950.
9. Lawrence, Irene Josephine. "A History of Educational Sociology in the United States." Unpublished Ph.D. Dissertation, School of Education, Stanford University, 1951, pp. 52-53.
10. Brim, Orville G., Jr. *Sociology and the Field of Education.* New York: Russell Sage Foundation, 1958. p. 81.
11. The complete list circulated to Western Canadian librarians is mimeographed. It will be supplied by the author to anyone who writes for a copy.
12. Black, William Griffiths, "The Development and Present Status of Teacher Education in Western Canada with Special Reference to the Curriculum," Unpublished Ph.D. Thesis, Division of the Social Sciences, Department of Education. University of Chicago, 1936, p. 267.
13. Author's field notes, April, 1950.
14. Alberta Department of Education, *Annual Reports 1918,* p. 33., *1919,* p. 9, *1923,* p. 27.
15. Alberta *Summer School Bulletins, 1936* and *1937* and the author's field notes, April, 1950.
16. Author's field notes, May, 1950.
17. University of British Columbia *Calendar 1945-46* and correspondence with M. A. Cameron, Head of the Department of Education, University of British Columbia, 1949.

BOOK REVIEW

FREUD: THE MIND OF THE MORALIST. By P. Rieff. London - Gollancz, 1959, pp. XVI + 397, $4.50.

Until quite recently Freud has been regarded exclusively as a psychiatrist whose major contributions to the understanding of human behaviour were the exclusive concern of the psychopathologists. However, recently a number of authors, notably Brown in *Life Against Death: The Psychoanalytic Meaning of History,* Wheelis in *The Quest for Identity,* La Pierre in *The Freudian Ethic,* and now Rieff have wakened to the fact that Freud's non-clinical writings present a challenging and remarkably coherent philosophy of the human situation, dealing with topics such as society and the individual, ethics, religion, war, wit and politics. Professional educators should realize that this body of knowledge can be taught, suitably bowdlerised with abstractions, without bringing a blush to the cheek of the most modest damsel, and that it is now unwise to encourage the classroom teacher to believe that ignorance in this area is bliss.

Rieff's book is a peculiar farrago, uneven, incoherent, without direction, without any conception of the nature of evidence in the behavioural sciences, and written in a slick metaphorical style replete with surplus meaning. One might be excused for calling it an abomination of a book were it not for two meliorating things, firstly, the scattered sharp insights, notably a perceptive account of Freud's attitude to love (pp. 160-161), and, secondly, a number of contemporary themes, stated in the form of conclusions, which represent the sociologists' stock-in-trade criticisms of Freud. The themes are important and merit some consideration.

The first concerns the emergence of 'psychological man'.

> In this age, in which technics is invading and conquering the last enemy — man's inner life, the psyche itself — a suitable new character type has arrived on the scene: the psychological man. Three character ideals have successfully dominated Western civilization: first, the ideal of the political man, formed and handed down to us from classical antiquity; second, the ideal of the religious man, formed and handed down to us from Judaism through Christianity, and dominant in the civilization of authority that preceded the Enlightenment; third, the ideal of the economic man, the very model of our liberal civilization, formed and handed down to us in the Enlightenment. This last has turned out to be a transitional type, with the shortest life-expectency of all; out of his tenure has emerged the psychological man of the twentieth century, a child not of nature but of technology. He is not the pagan ideal, political man, for he is not committeed to the public life. He is most unlike the religious man. We will recognize in the case history of psychological man the nervous habits of his father, economic man: he is anti-heroic, shrewd, carefully counting his satisfactions and dissatisfactions, studying unprofitable commitments as the sins most to be

> avoided. From this immediate ancestor, psychological man has constituted his own careful economy of the inner life (p. 356).

Rieff appears to offer this as a finding or a conclusion, but he has no justification for this. Why does Rieff dislike this new hominid? He talks of 'the tyranny of psychology' in several places, and states on page 318 that "The inquisitiveness of psychology is tyrannical—and shareable". Several pages later we find the following:

> In a distinctively intimate way, psychoanalysis defends the private man against the demands made by both culture and instinct. Freud begins where G. E. Moore leaves off in the famous last chapter of *Principia Ethica* that declares personal affections and artistic pleasures the only true goods in our experience. The private man needs to know how to defend his affections, for the most personal are the most easily spoiled. Psychoanalytic pedagogy is intended for the student weak in the understanding of the limited possibilities in life (p. 329).

This is simply playing things both ways. And if the criterion is to be the extent to which an individual is forced to concentrate on his personal life, why not the tyranny of theology or of philosophy?

There is a further point: why should Freud be dragged in as a cause of the emergence of this new character ideal? Economic conditions such as prosperity and the trend to huge commercial enterprises constitute a plausible alternative. People who are prosperous can afford the time and the money for self-contemplation, and will readily turn to any current psychology. Support is given to this possibility by the fact that Freudian theory never became popular with clinicians until the last fifteen years.

A second theme, closely related to the first and appearing in such diverse contexts as LaPiere's *The Freudian Ethic* and the poems of Ferlinghetti, the San Francisco ex-beatnik, is that successful Freudian therapy encourages the individual to adjust in the passive sense, to tolerate and put up with the conditions of his life, rather than to do something constructive to change them. For example, the following assertion appears on page 299:

> The success of Freud's own doctrine is probably as good a refutation as any of his sharp separation between "religion" and "science". Psychological doctrine, filtered down into textbooks, daily newspaper columns, salesmanship manuals and the mental-hygiene movement, overtly anti-religious and carrying all the pomposity of an immature science in its train, actually now teaches mostly the character virtues of resignation and adjustmet. With their powers of "positive thinking," their ethics of "living on a twenty-four-hour basis," the psychological cults in which America currently abounds do not even aspire to the halfhearted criticism still occasionally to be found in the churches. The popular drift of psychological science aims at freeing the individual most of all from the burden of opposition. On the other hand, religion, with its symbols of remembrance, may be that very submission to the past that will preserve in us some capacity for a radical criticism of the present.

Wheelis, in his *Quest for Identity*, gave a more cautious interpretation of the same theme:

> Knowledgeable moderns put their backs to the couch, and in doing so they fail occasionally to put their shoulders to the wheel (p. 44).

Against this it could be argued that Freud saw his business as the helping of patients to understand the aetiology of their neuroses; what the patient did or thought after the therapy was the patient's business. Freud was markedly chary about offering the patient advice about how to conduct himself in the world at large. From the successful case studies published (for example those by Lindner in *The Fifty Minute Hour*), there is no evidence that the patients became increasingly conformist after the dissolution of their conflicts. Indeed Wheelis accounts for the presence of Rieff's ideal character in contemporary life exclusively on the basis of cultural changes consequent upon the instrumental and technological changes so characteristic of the twentieth century. In fact, Wheelis's main criticism of Freud is that he (Freud) devised a theory and a therapy quite inapplicable to the character disorders so prevalent at the present moment. Clearly Rieff's position here is not well established, perhaps because he seems unacquainted with contemporary psychiatric thinking.

Rieff's third theme marks him down as a type of metaphysical quibbler who is an alien figure in contemporary psychology. The theme is that it is impossible to construct a psychological system without reference to morals (p. 29), and the latter are not amendable to scientific analysis. Ergo . . .

> For the passions with which Freud concerned himself display such elusive modulations and reversals, express themselves so ingeniously, and are at the same time (this is in no way contradictory) so gross, so morally fraught, so unwieldy, that experimental science cannot encompass them (p. 20).

Rieff then extends this idea by assuming that, since Freud created a psychological system with moral implications, Freud *must* have generated his system out of previously acquired ethical notions and values, and bolstered it by selective interpretation of case-history data. For example, Rieff believes than Freud's resort to sexuality to explain neurotic symptoms is a product not of Freud's observations of patients but of his "ethical naturalism'.

> To explain Freud's specific interpretative recourse to sexuality, we must look beyond the interior logic of his interpretative method — which need not imply base meanings at all, though it must imply concealed ones — to the ethical imperative which guides it. This imperative is the day-to-day therapeutic chastisement of ethical aspiration. Ultimately Freud's interpretative method is aimed against, and therefore distorted by, the belief that we all live self-deceived on the seemly consoling surface of manifest meanings. As he once declared, "Mankind has always known that there is spirituality. I had to show that there are also instincts" (pp. 145-146).

In a similar vein Rieff regards the concept of ambivalence as a stratagem devised to stretch Freud's theory to fit behaviour which

apparently contradicts that theory. This resembles Bernard Shaw's classic complaint against Pavlov's juggling of the terms 'inhibition' and 'disinhibition',

This deliberate wrenching round of the normal method of interpreting Freud—which is that his concepts are a product of his clinical observations and influence, to some extent, his ethical and political attitudes—poses two disturbing questions. The first concerns the ethical neutrality of the social scientist, the contention that science is concerned, not with the establishment of ultimate ends or values, but only with the adequacy of the relationship between means and ends. Secondly, if science cannot free itself from value-judgements can psychologists, who do not shelter behind the restrictive confines of stimulus-response conceptions, ever be certain that their findings and observations are not selected to square with their performed evaluations? If Rieff's book forces us to address ourselves to these problems again, it will have done some good.

LaPiere, reviewing the book in *The American Journal of Psychology,* has declared it to be 'an intellectual tour de force'. It is nothing of the sort. Rieff will improve, however, provided he digests Freud rather more (at the moment he has merely mugged him up) and learns to discriminate between evidence and mere assertion.

Charles C. Anderson
April 1960.